

Strategy for the PhD Programme at LIFE

Report from LIFE's PhD Task Force

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1. Introduction

This report is the result of the strategy development process for the PhD area at the University of Copenhagen, Faculty of Life Sciences (LIFE) conducted by the ‘PhD Task Force’ between October 2010 and May 2011. The strategy process was initiated by the board of management at LIFE in August 2010, triggered by the fact that the PhD area has expanded significantly during the last few years. With its approximately 700 PhD students enrolled, the area now constitutes more than 15% of the economic turnover at LIFE or around DKK 200 million per year.

Historically, LIFE has hosted an internationally recognised and well-organised PhD programme within life sciences. These factors are probably the most important reasons why the area has been sufficiently robust to have been able to move relatively smoothly through the last few years of transition and expansion. It is, however, also clear that the transition at the same time opens up for new possibilities and necessitates new ways of organising the area.

The starting point for the Task Force has been a process of collecting information and having discussions with representatives from all the different stakeholders within the PhD area. This process has opened our eyes to some of the long-term perspectives in the PhD area. It is our hope that this report and its proposed strategy and specific recommendations will constitute a useful basis for the next five years of development within the PhD area at LIFE.

1.1 Strategy process, Task Force and background information

In September 2010, the terms of reference for the strategy process¹ were approved by the Faculty Management at LIFE, and the six-member PhD Task Force headed by the associate dean for research was appointed shortly thereafter. The Task Force was given the task of producing a written strategy for the PhD area at LIFE.

Meetings with representatives:

The backbone of the strategy process has been eight meetings evenly distributed throughout the process, during which we received contributions from twenty representatives from the PhD area. We have received input from PhD students, PhD supervisors, PhD programme leaders, heads of department and administrators working with the PhD area at LIFE. Furthermore, we have acquired input from representatives from the Confederation of Danish Industry (DI) and the Danish Agriculture & Food Council (L&F), and we drew a lot of useful inspiration from the heads of the PhD schools at our sister faculties at the University of Copenhagen, the Faculty of Health Sciences, the Faculty of Science and the Faculty of Pharmaceutical Sciences, and from the newly established PhD school at Foulum at Aarhus University. A complete list of these direct contributors to the strategy process is presented in appendix 2.

Written sources of background information

Among the written sources of background information, we would like to emphasise the 2011-2014 strategy for the PhD area, which constitutes a part of the large LIFE 2011-2014 strategy document², The Academic Rules³ as well as the The financial guidelines for the Phd education at LIFE⁴ and the laws and regulations for the area. Additionally, during the discussions in the final fase of the Task Force’s work, the recent report from Rigsrevisionen has served as inspiration.

¹ Terms of reference for the Task Force process. See appendix 1.

² Strategisk handlingsplan for LIFE 2011-2014.

³ www.life.ku.dk/phdintr

⁴ www.life.ku.dk/phdintr

Broader discussions

The active strategy process has catalysed a series of more general, but not less constructive, discussions about the PhD area. These discussions have taken place both within the PhD board, during a number of meetings between the head of the PhD school and the individual LIFE departments and at a meeting about LIFE's PhD administration.

Afterthought

As an indirect result of the Task Force process, a number of inefficient ways of organising the area on the administrative side have been identified. Some of these have substantial practical implications for the handling of the nearly 700 enrolled PhD students' projects (expected to rise to around 900 within 3 years). Solutions to these problems should not await the publication of a PhD strategy report.

In the years to come, we expect that the PhD area will continue to be highly dynamic as a response to internal and external factors. Because of this, it is important that we maintain an ongoing evaluation and discussion to detect and correct system errors that inevitably continue to show up in a rapidly changing environment.

Reading guide:

The present report consists of the following elements. Chapter 2 constitutes the task force's proposal for a general strategy for the PhD area at LIFE. Chapter 3 highlights a list of prioritised specific recommendations from the task force. These prioritised recommendations fall into four categories, each of which is elaborated upon separately in the subsequent chapters; Chapter 4 looks at the quality of the PhD education; chapter 5 examines the academic organisation of the PhD area; chapter 6 deals with the administrative organisation and chapter 7 treats the financial prioritisation of the PhD programme at LIFE.

Task Force

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2. Strategy for the PhD programme at LIFE

The strategy for the PhD programme⁵ at LIFE comprises three elements: 1) Our *mission and vision statements* 2) the description of our *strategic focus areas* and 3) the expression of our *value principles*.

The first element is constituted by two brief statements: Our *mission statement* summarises what we consider the reason for the existence of the PhD programme at LIFE, and our *vision statement* briefly states what we want the PhD environment at LIFE to be.

The second element of our PhD strategy is the description of our strategic focus areas. Here we specify the themes which we will give particular attention over the next 3-5 years and identify courses of action that will be vital in relation to those themes.

The third element is our value principles in which we state our basic convictions about the PhD education at LIFE. These principles do not provide suggestions for particular courses of action; rather they express fundamental convictions that should be kept in mind as we respond to future challenges and work towards realising our vision for the PhD education at LIFE.

Collectively, these three elements of the PhD strategy sum up 1) why we are here and where we want to go, 2) what we will need to focus on to get there and 3) what we should keep in mind while we are on the way.

2.1 Mission and vision for the PhD programme at LIFE

- ***Mission for the PhD programme at LIFE:***

The PhD programme at LIFE organises training and education of researchers within all areas of life science. We do this to ensure the highest scientific level among the next generations of researchers and decision-makers to the benefit of society.

- ***Vision for the PhD Programme at LIFE:***

The PhD programme is a dynamic and inspiring environment for educating researchers at the highest international level.

⁵ The PhD programme is defined in a broad sense that includes all persons and activities that relate to PhD education at LIFE.

2.2 Strategic focus areas for the PhD programme at LIFE

Benefit for society

The PhD programme is one of the flagships at LIFE, and this faculty will continue to allocate significant resources towards the training and education of PhD students within life sciences. The overall aim of the programme is to train researchers who will contribute to the further development of the general welfare and knowledge level in our society – both in the public and the private sectors.

Benefit for research and teaching

The PhD programme shall constitute an integrated part of the research environment at LIFE and secure future lecturers for top-quality research-based BSc and MSc education. To ensure this, the elite research areas as well as LIFE's core research and teaching areas should be supported by targeted recruitment of PhD students using strategic financial allocation of PhD stipends.

Stronger research environments and scientific networks

The PhD programme shall constitute a central part of strong research environments at LIFE and facilitate research activities within both basic and applied sciences. The programme should be organised so as to allow PhD students to participate actively and independently in pushing the scientific frontiers and, as part of this process, to build a national and international scientific network relevant to their future careers.

Shifts in environment during the PhD education are required by the Danish PhD Order. This - combined with the fact that a change of environment is strongly beneficial to a PhD education – implies that LIFE shall actively encourage such shifts.

The role of the departments shall remain central for the PhD Programme

The departments shall continue to bear the main academic, financial and social responsibility for the PhD students. The main responsibility of the PhD school and Faculty Services is to support, control and facilitate PhD training and education at the departmental level.

Social wellbeing is essential

Social wellbeing is necessary for the successful completion of a PhD education and socially integrating PhD students into the departments is vital for ensuring their wellbeing. In accordance with the LIFE strategy paper⁶, the PhD programme at LIFE shall continue to encourage and, where possible, support PhD students' successful integration into and involvement in the activities of the departments.

Our PhD brand and focus on post PhD career options

LIFE is dedicated to making a PhD degree from our faculty a brand that guarantees a) a high level of academic knowledge, b) innovative thinking, c) a strong ability for problem solving and decision making as well as d) a sound understanding of the principle of good scientific practise.

We will continuously maintain and cultivate close collaboration between LIFE and future employers for our PhD graduates as well as monitor whether PhD graduates from KU LIFE continue to be strong and attractive job candidates.

As an integrated part of their education, the PhD students should acquire a thorough understanding of their career options and personal potential. The aim is to ensure that the PhD education has the

⁶ Strategisk handlingsplan for LIFE 2011-2014, p. 5.

highest possible impact on the future careers of the PhD students and thereby on their ability to contribute to society.

Increased internationalisation

In order to obtain the highest possible academic level, we consider it paramount that the PhD education has a strong international orientation, and we will continuously measure ourselves against and collaborate with the best PhD programmes internationally. The internationalisation, which should be beneficial to the PhD students as well as their supervisors, will be strengthened primarily by three elements; a continued focus on the recruitment and education of international PhD students; a much stronger focus on international collaborations related to PhD courses via the proposed Master Class programme; a stronger focus on establishing and nurturing international research collaborations by ensuring that as many PhD students as possible carry out a significant part of their project abroad.

As an additional element of the internationalisation effort, the PhD area at LIFE shall continue its dedication to capacity building in relation to education and research in developing countries. Capacity building shall take place at an individual as well as an institutional level.

Academic organisation and facilitation of PhD courses at the highest level

The PhD courses constitute a significant part of the PhD education. In close collaboration with other faculties at the University of Copenhagen, other Danish universities as well as regional universities, we shall ensure that our PhD students have access to a broad portfolio of relevant PhD courses at the highest international level. This includes general skills courses as well as high level Master Class courses taught by leading internationally scientists.

PhD administration from a user point of view

At LIFE, we will focus on simplifying the PhD administration as seen from the users' point of view. The PhD supervisors and PhD students should experience swift, smooth and timely administration. A clear delegation of tasks and responsibilities between the departments and the central PhD administration at LIFE should be ensured with the aim of avoiding excessive administration.

Transparency in financial matters

A continued effort to secure transparency and flexibility in relation to financial matters is central to the development of the PhD area at LIFE. Our allocation of stipends shall take into consideration the support of elite students, elite research areas as well as other strategically important areas.

2.3 Value principles for the PhD Programme at LIFE

Our value principles state core values for the PhD education at LIFE and they are meant to guide future decisions relating to the PhD education. Central to these principles is the fundamental acknowledgment that every PhD student is unique and should be given the best possible conditions for carrying out a PhD project of the highest scientific quality and for receiving an excellent PhD education.

At LIFE, we believe that the PhD student and his/her supervisors are the experts of the individual PhD projects and that they are the persons who have the greatest academic and personal interests in making their PhD project a successful one.

- **The education of researchers is the highest priority**
The central aim of the PhD school at LIFE is to facilitate the education of individual and unique researchers. The production of high-quality research will normally go hand-in-hand with this central aim, but remains a secondary priority.
- **PhD projects at the core**
The individual PhD research projects are at the core of the PhD education. Optimal facilitation of PhD research projects shall therefore remain a key priority in all decisions for the PhD school at LIFE.
- **PhD students shall be given freedom and responsibility**
PhD students should have the highest degree of academic freedom to pursue their individual scientific goals. This shall take place within the framework of their project and under the guidance of their supervisors. However, the key responsibility for a successful PhD education lies with the PhD student.
- **Excellent PhD supervision is central**
Excellent PhD supervision is a requirement for an excellent PhD education.
- **PhD courses shall be at the highest level**
PhD courses are an important part of the PhD education at LIFE. The PhD school shall continually ensure that all enrolled PhD students have access to a broad range of relevant PhD courses at the highest international level
- **Doing a PhD must be an education as well as a career start**
The PhD programme at LIFE shall not only constitute a high-level education but also the outset of a career.
- **Administrative routines and changes should benefit the PhD students and supervisors**
The organisation of the PhD school shall continue to be dynamic and open to modifications of its rules, regulations and organisation provided that these are improvements as seen from the point of view of the PhD students and their supervisors.

3. Prioritised recommendations from the task force

The Task Force process has resulted in a number of specific recommendations that should be implemented in the period 2011-2014. The recommendations are provided with the strategic focus areas as well as the value principles in mind. The recommendations are briefly summarised below. Further details about time frame and implementation are presented in the Task Force report.

3.1 Quality of the PhD programme

(These recommendations are elaborated upon in chapter 4)

- **Master Class courses.** A new category of academically specialised PhD courses should be established – so-called Master Class courses – which should be at the highest academic level and should receive considerable contributions from leading international researchers.
- **Internationalisation and business collaboration.** Initiatives should be implemented to ensure increased internationalisation and increased business collaboration.
- **Career guidance.** Initiatives to strengthen PhD student career guidance should be implemented and efforts should be made to facilitate and strengthen the transition to a post-PhD career.

3.2 Academic organisation of the PhD school

(These recommendations are elaborated upon in chapter 5)

- **Organisational structure for the PhD school.** A replacement structure for the former research training programs has to be implemented with the aims of 1) enhancing the academic quality within Life' PhD educations, 2) securing transparent communication paths between the PhD School, the Departments and the individual projects, and 3) securing continuity in the academic organisation and PhD course offerings
- **Clear financial framework.** A clear financial framework for holding PhD courses should be ensured and communicated plainly.
- **Establishment of PhD House.** A PhD House should be established with room and facilities for intensive PhD courses as well as for other PhD events of both academic and social nature.

3.3 Administrative organisation of the PhD programme

(These recommendations are elaborated upon in chapter 6)

- **PhD front desk.** A PhD front desk should be established, where representatives from relevant offices at Faculty Services and the PhD school are present. The office should have weekly opening hours and can assist in the preparation of advertisements, budgets and enrolment to ensure faster case administration.
- **Half-year reports.** The half-year reporting system should be reorganised, and a financial/administrative system should be established and be independent of the academic/educational system.
- **File administration system.** An electronic file administration system should be developed to handle the entire PhD studies process.

3.4 Financial prioritisation of the PhD area

(These recommendations are elaborated upon in chapter 7)

- **Prioritised full funding as well as co-financing.** The task force recommends a continued distribution of the faculty grant funding into centrally prioritised fully funded stipends as well as co-financing of externally funded PhD projects.
- **Tuition fee principles.** The principles for the use of PhD student tuition fees should be laid down to safeguard, to a higher extent, the financial basis for a broad and varied course portfolio and to ensure that PhD students can use the funding for attending PhD courses abroad.

4. Quality of the PhD programme at LIFE

Summary and prioritised recommendations:

Efforts should be made to improve the quality of the PhD programmes at LIFE by strengthening PhD courses at a high academic level and through increased internationalisation and business collaboration. The career guidance offered to PhD students should be strengthened with a view to maximising the impact of the increased PhD intake on society.

- **Master Class courses.** A new category of academically specialised PhD courses should be established – so-called Master Class courses – which should be at the highest academic level and should receive considerable contributions from leading international researchers.
- **Internationalisation and business collaboration.** Initiatives should be implemented to ensure increased internationalisation and increased business collaboration.
- **Career guidance.** Initiatives to strengthen PhD student career guidance should be implemented and efforts should be made to facilitate and strengthen the transition to a post-PhD career.

The PhD school and the PhD board are responsible for the quality assurance of the PhD programme. At LIFE, the head of the PhD school is responsible for ensuring the quality of the PhD programme by defining, with the involvement of the PhD board, an overall study structure based on Danish legislation and the University of Copenhagen's rules as well as for initiating and/or overseeing ongoing evaluations and adjustments. On a day-to-day basis, the quality of the individual PhD projects is ensured by the PhD student's supervisor or supervisor team, which guarantees the intake of qualified candidates, the quality of the programme content in terms of relevant courses, a high research level and changes of environment. The supervisors are also responsible for ensuring, along with the student, that the studies are completed within the scheduled timeframe.

Through the work on the research project and by following relevant courses, the student must acquire specialist knowledge within a research area defined by the project. In addition, the student must acquire general knowledge of relevant research methods and issues as well as project management experience.

4.1 Status

PhD project. The individual PhD project constitutes the most important element of the PhD education. The supervisors are responsible for ensuring that the PhD projects have an international research quality. The main responsibility for the project management lies with the PhD student.

PhD courses. Along with the student, the supervisors are responsible for ensuring that the studies include academic courses at an international level to guarantee the highest level of academic specialist knowledge. In this context, the supervisor must also ensure knowledge of advanced experimental and/or theoretical research methods as well as knowledge of and skills within report writing, project management and ethical issues.

Duty work. PhD students employed with LIFE can be required to do so-called ‘duty work’ of up to 280 hours a year. The duty work performed by the PhD students must as far as possible be academically relevant and related to the individual student’s PhD project and qualifications.

Communication. As part of their PhD programmes, the students must gain experience with teaching or other forms of knowledge dissemination. The presentation of research results at international conferences constitutes an independent element of the dissemination obligation. PhD students enrolled at LIFE must spend an average of at least 70 hours a year on teaching and dissemination activities.

Internationalisation. LIFE’s PhD school must constitute the framework of a reputable PhD programme with an international profile with respect to both courses and students. The school will thereby contribute to bridge building and knowledge transfer between the strongest environments in the international arena. The faculty’s researchers must continuously ensure an academically strong research environment with national and international collaboration activities. The international profile of the PhD school must furthermore be ensured by admitting a significant number of international candidates and by continuing to work actively for a progressive language policy. Moreover, LIFE has an aim of targeting a specific share of its PhD activities at capacity building in developing countries.

4.2 Challenges

According to the Task Force’s assessment, the quality of LIFE’s PhD programmes is very satisfactory in general, not least as a result of a long-standing tradition of a well-defined framework for both the programme and the administration⁷. However, with the increased focus on the PhD area, continuous review and quality assurance of the area are required in order to ensure an attractive programme at the highest international level. In its SWOT analysis (see below), the Task Force has thus identified several challenges and opportunities for improvement.

<p>Strengths</p> <ul style="list-style-type: none"> - Many qualified applicants - Many international PhD students - Well-functioning introduction course - Good academic standard - Focus on the individual PhD student - More than one supervisor per student - Supervisors and students working as a team - Good opportunities for interdisciplinary programme content 	<p>Opportunities</p> <ul style="list-style-type: none"> - Better utilisation of company collaboration - Marketing of LIFE via PhDs in jobs - Increased focus on international advertisements with a view to recruiting students from among the best qualified and motivated national and international candidates
<p>Weaknesses</p> <ul style="list-style-type: none"> - Large cultural differences between Danish and foreign PhD students and consequent lack of interaction between the groups - Lack of influence on and ownership of the project among students employed on a project funded basis - Insufficient academic course offerings and poor utilisation of international networks - The roles of the principal supervisor, supervisor and PhD coordinator are not clearly defined in relation to resolving conflicts, if any 	<p>Threats</p> <ul style="list-style-type: none"> - A demanded increased intake may cause a deterioration in quality of the PhD students’ academic level and increased pressure on supervisor resources - Uncertain career path for PhDs and young researchers in general - Lack of knowledge about the competences and skills of PhD graduates among employers - Danish PhD students only have three years for their studies compared with four years in some other countries

⁷ See, for example, ‘Regulations for PhD programme at LIFE’ (*Regelsæt for ph.d.-uddannelsen ved LIFE*).

<ul style="list-style-type: none"> - Lack of explicit allocation of time for PhD supervision - Lack of official ceremony and celebrations in connection with PhD degrees being awarded from LIFE - The PhD studies are interrupted by many short ‘duty assignments’ 	
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As the SWOT analysis indicates, there are both internal and external challenges. While keeping in mind the externally defined framework, the Task Force’s recommendations focus on the internal opportunities at LIFE. Efforts should be made to affect the external conditions politically, which must be coordinated centrally at the University of Copenhagen, among other things through the collaboration in KUFUR, the university’s Academic Board on PhD Education.

4.3 Intake and internationalisation

A large number of the PhD students at LIFE have an international background. Some have a background from high-ranking internationally recognised universities, while other enrolments are based on project collaborations with less well-developed university systems. A key condition for LIFE’s ability to remain attractive to the best students internationally is to ensure that English becomes the dominant language in all significant communication. In addition, a broad offering of courses and seminars is required in order for LIFE to stand out as a leading university in respect of PhD studies.

Recommendations

- **Student background.** The Task Force recommends that approx. two-thirds of the PhD students have a background from Danish universities, while approx. one-third has a background from foreign universities. As part of LIFE’s developing country strategy, the Task Force supports the idea of approx. 5% of the students participating in capacity building projects (Anchoring: PhD school. Implementation: 2011).
- **Advertising PhD projects.** To ensure that the best qualified candidates apply for admission to LIFE, the Task Force recommends targeted advertising in major international media as well as communications of opportunities through individual researchers’ local and international networks (Anchoring: Institutes and supervisor teams with support from HR. Implementation: 2011).
- **English as main language.** The Task Force recommends that LIFE pursue a progressive language policy with the greatest possible use of English in written and oral communication. All official PhD communication should be in English by 2012 at the latest (Anchoring: PhD school and Faculty Management. Implementation 2011-12).
- **Annual theme seminars.** The PhD school should be obliged to hold a number of annual theme seminars on current issues. These could concern perspectives for PhDs working in the Danish business community, issues relating to the communication of research, academic leadership, information on funding and foundations, information on courses offered and study completion, information on intake and supervision, etc. (Anchoring: PhD school. Implementation: 2012).

4.4 Supervision

Status

Today, PhD students are typically part of small research groups which is affiliated with large national or international environments. The PhD school at LIFE currently recommends that PhD students have at least two supervisors and that a plan for regular supervisory meetings be agreed upon. Most often, the students contribute actively in the environments in a number of situations, including by providing expert assistance in affiliated projects as well as by participating in meetings and giving lectures at group seminars.

Recommendations

- **Change of half-year reporting.** The Task Force recommends that supervisors have increased focus on ensuring that the PhD students are active members of large or small research groups anchored in international research environments. We furthermore recommend that the present half-year reporting be replaced by regular reporting based on natural academic milestones in the PhD plan. Examples of this could be start-up and status seminars, a report on external research stays, the supervisor's final report as well as performance and development reviews. The reporting should be signed by the supervisor and PhD student only and sent to the PhD administration who will register the report on a regular (half-yearly) basis (Anchoring: PhD school and supervisors as well as Study and Students' Affairs. Implementation: 2011).
- **Knowledge about supervision.** KUFUR should initiate the acquirement of further knowledge about what constitutes excellent PhD supervision. Once this knowledge has been acquired, it should constitute the basis for the training of the PhD supervisors. (Anchoring: KUFUR. Implementation: 2012).
- **Supervisor knowledge in relation to unsuccessful projects.** The PhD school should ensure that PhD supervisors at LIFE know how to handle situations where PhD projects go badly, i.e. that the supervisors have sufficient knowledge about opportune rectification and expulsion processes in relation to PhD students (Anchoring: The PhD school. Implementation: 2011).

4.5 Course offerings and career guidance

Status

The PhD programme comprises courses corresponding to six months' work (30 ECTS credits). Depending on their field of study, students at LIFE follow a varying number of the courses at LIFE. During the Task Force process, it became clear that PhD students generally have difficulties finding a sufficient number of advanced courses, and many students have one or more courses that are not at the PhD level in their course portfolios.

Recommendations

- **International courses.** With to the aim of achieving the highest possible academic standard and a clear international dimension in PhD courses, the Task Force recommends that students take some of their courses outside LIFE as well as that the LIFE courses be offered nationally and internationally with the aim of attracting students from other Danish and

foreign universities. The objective is for a student exchange degree of a minimum of 15% (Anchoring: PhD school. Implementation: 2013).

- **Master Class courses.** The Task Force recommends that a category of high-profile PhD courses be developed over the next few years; the so-called *Master Class courses*, which are courses at the highest academic level, typically with a duration of one week and featuring at least one international lecturer. Master Class courses should be offered specifically to the target group of PhD students and postdocs. Master Class courses should be internationally attractive and should attract students from LIFE, from other faculties at University of Copenhagen as well as from other Danish and foreign universities. A significant part of the Master Class courses should have a large experimental content (Anchoring: PhD school and departmental management teams. Implementation: A minimum of four annual Master Class courses per PhD area in 2012).
- **Course portfolio requirements.** The Task Force recommends that the course portfolio for LIFE students in 2014 should comprise courses at Master Class level corresponding to a minimum of 10 ECTS credits. The Task Force further recommends that the generic courses should correspond to a maximum of 10 ECTS credits (Anchoring: PhD school. Implementation: 2013).
- **Career guidance: Introduction Course and Career Lab.** In order to give the PhD students a clear LIFE profile, the Task Force recommends that all LIFE PhD students be offered the chance to participate in a course starting with a 3 ECTS Introduction Course and a 2 ECTS Career Lab towards the end of the PhD education (Anchoring: PhD school. Implementation: 2011).

4.6 The research project

Status

During the course of their studies, the PhD students must communicate their project plan and research results. The introduction and status seminars as well as the project report and defence are some of the most important communication obligations. However, the students are also expected to participate in international conferences and publish articles in international journals. PhD students are normally introduced to relevant international research networks via the supervisors' contacts or via other specialist networks and they are required to have a change in research environment, typically spent with international collaboration groups or in relevant companies.

Most PhD studies take a little longer than the three years scheduled. LIFE's PhD school only knows of few examples of PhD projects which have been completed *before* the end of the scheduled three years. The reason for the latter is presumably that the PhD enrolment, and thus also the PhD employment, ends when the project thesis is submitted. In practice, the students' incentive to submit their thesis ahead of time and get sufficient time to prepare their defence and finish articles is thus non-existent.

Recommendations

- **Environment change.** The Task Force recommends that all PhD students, in their project plan, include a stay with a foreign research institution or a research-based company of relevance to the project. Typically, the external stay should be of 3-6 months' duration – possibly split into a number of shorter stays. In relation to changes in environment, focus should be on the outcome of the change (improved network, research, publications, acquired

competences, etc.) rather than on the length and type of change (Anchoring: Supervisors. Implementation: 2013).

- **Advertising seminars.** The Task Force further recommends that both the start-up and status seminars be advertised widely and that the seminars form a natural part of the academic groups' way of informing each other about research initiatives and research findings (Anchoring: Supervisors. Implementation: 2011).
- **Participation in international conferences.** The Task Force recommends that all PhD students present the results of their studies at at least one international conference or workshop. (Anchoring: Supervisors. Implementation: 2013).
- **Timely completion incentive.** The Task Force recommends that LIFE develop an incentive for students to complete their PhD studies within the time scheduled. This could, for example, be a reward in the form of a postdoc position for the student for a number of months, during which articles can be finished and the student can work on securing his or her future career (Anchoring: The PhD School and Faculty Management. Implementation: 2013).
- **Time between submission and defence.** To solve the problem of students being without PhD employment in the period between the submission of the PhD project report and the approved PhD defence, the Task Force recommends that the faculty use free funding to safeguard students' employment until the defence has been completed, corresponding, however, to three years total of PhD studies as a maximum (Anchoring: Faculty Management. Implementation: 2012). As concerns a long-term solution, the Task Force recommends that a political solution be sought via KUFUR such that the PhD project is formally completed upon the defence being approved and not upon submission of the thesis as is currently the case (Anchoring: PhD school and KUFUR. Implementation: 2013).

5. Academic organisation of LIFE's PhD programme

Summary and prioritised recommendations:

The academic organisation of LIFE's PhD school should be structured with a view to facilitating an optimum PhD programme, including offering students the best and academically most relevant courses. Furthermore, the organisation should facilitate the founding of a strong academic network for PhD students during the PhD programme. In order to achieve these objectives, the Task Force recommends the following:

- **Organisational structure for the PhD school.** A replacement structure for the former research training programs has to be implemented with the aims of 1) enhancing the academic quality within Life' PhD educations, 2) securing transparent communication paths between the PhD School, the Departments and the individual projects, and 3) securing continuity in the academic organisation and PhD course offerings
- **Clear financial framework.** A clear financial framework for holding PhD courses should be ensured and communicated plainly.
- **Establishment of PhD House.** A PhD House should be established with room and facilities for intensive PhD courses as well as for other PhD events of both academic and social nature.

The academic organisation of LIFE's PhD school should facilitate a good and academically relevant course offering for the PhD students and should ensure that the PhD students have a good academic network during both the PhD studies and after the completion of the programme. From an overall point of view, it is important to establish a new academic organisational structure to replace the research training programmes. The new organisation should, for one thing, be able to facilitate a course offering which draws on the best resources across departments and educational institutions and should, for another, support the possibilities of students obtaining a sufficiently high international research level during the course of their PhD studies. From a local course provider perspective, the Task Force's analysis also indicates that it is important to ensure that the practical framework, including the financial framework for the PhD courses, is clear and well communicated.

5.1 Background and status

Until 2010, a significant part of the academic activities in the PhD projects were organised through the research training programmes, the so-called FUPs. The establishment of the research training programmes incorporated a direct incentive to establish groupings across departments, faculties and universities.

In the successful cases, this contributed to ensuring the best possible research level in the research training programmes and excellent cross-institutional PhD courses as well as to ensuring that PhD students came into contact with leading international researchers within their research field. In addition, the research training programmes have played an important role in connection with fundraising for PhD projects and have succeeded in raising funds for 1/3 financing from both public foundations and private players. Thanks to their clear academic profile, the research training programmes have in particular been able to play a role in connection with concrete business collaboration projects.

Unfortunately, the concrete role of the research training programmes has not always been sufficiently clear and beneficial for the individual PhD students. Moreover, it should be noted that, for various reasons, many of LIFE's PhD projects have not been associated with a research training programme.

The basic financing which the research training programmes had received in the form of the so-called quality enhancement funds, came to an end in 2010/2011. In the individual academic environments, it has been possible to maintain the activity level in the research training programmes, for example via co-financing from industrial partners. In other academic environments, the former academic role of the research training programmes is filled by the departments in combination with more loosely organised structures, e.g. major research projects.

Academic organisation – SWOT analysis:

<p>Strengths</p> <ul style="list-style-type: none"> - Good social life with many PhD students, including international students - Annual project funds for courses, conferences, stays abroad, various purchases - Good working facilities, good salary and good working conditions (from an international perspective) - International orientation in a wide variety of key courses - Good generic courses and activities from start to end of the study programme - Good academic research environment 	<p>Opportunities</p> <ul style="list-style-type: none"> - More space via new buildings - Cross-faculty collaboration and networks - International strategic partners, including IARU collaboration, EU Initial Training Networks and other international graduate schools - Double degrees - Increased KUFUR/KUFIR coordination - Partial coordination of generic PhD courses at the University of Copenhagen and freeing-up of resources to ensure a more varied and targeted course offering - Double PhD and specialist programme/residency (3+2 years – veterinary surgeon)
<p>Weaknesses</p> <ul style="list-style-type: none"> - Lack of plans for how to replace the research training programmes - Heavy pressure on academic environments, space and the administration due to the increase in the number of PhD students - Insufficiently formalised/structured supervisor contact with the business community - Inadequate social networks for international students, including formalised mentor scheme - Lack of common PhD forum - Lack of understanding of the potential needs of prospective employers 	<p>Threats</p> <ul style="list-style-type: none"> - Difficult coordination between PhD schools at different universities - Transitional problems: Time wasted in connection with the transition from graduation to the PhD programme and lack of postdoc opportunities immediately after the PhD studies - Weak incentive in the business community to get involved in PhD projects

The Task Force's SWOT analysis (see above) as well as the dialogue with the representatives invited in connection with the Task Force process identify the following two key problems in relation to the academic organisation of the PhD school:

1. Currently, there is no well-defined replacement structure for the research training programmes. This results in a lack of communication paths between PhD school, departments and the individual PhD projects, including a lack of organisational structure for coordinating PhD course activities with other PhD schools.

2. Some course providers are experiencing a negative financial incentive to hold PhD courses. Although the departments receive a kind of 'student FTE funding' in respect of the PhD course activity, in most cases these funds do not get allocated to the individual provider. This has the consequence that external fundraising is required to procure the financial cover for holding a PhD course with, for example, international contributors, excursions, administrative support or other expenses.

Both these problems are having a negative impact on the PhD course offering and thereby on the quality of the PhD course portfolio of the single PhD students, and, according to the assessment of the Task Force, both problems can be solved to a large extent by changing the organisation internally at LIFE.

The recommendations below are therefore based on the simple ‘PhD course student FTE’-based model, which was introduced by LIFE as at 1 January 2011 and which operates with a fixed price per ‘PhD course student FTE’. The Task Force is of the opinion that the model could become extremely useful in terms of visualising the financial aspects in connection with PhD courses and thus creating a financial foundation for research training programmes, elite research areas, major research projects, departments, the PhD school as well as other academic groupings being able to offer PhD courses. The Task Force assesses that the model, with minor adjustments and if well-communicated, can contribute to ensuring optimum utilisation of both academic and administrative resources as well as ensure funding for external lecturers and consultants to the relevant extent.

5.2 The future organisation of the PhD school

Recommendations

- **Organisational structure for the PhD school.** In order to enhance the academic quality of the PhD education, ensure transparent communication as well as continuity in the academic structure, an improved organisational structure for the PhD school must be introduced. The task force’s initial proposal for such a structure met significant criticism during the hearing process and has been retracted. A new organisational structure must be coordinated with the PhD board, CFL and the faculty management and it should be implemented as soon as possible (Anchoring: Head of PhD school, the PhD board, CLF, faculty management. Implementation: 2011).
- **Role of PhD coordinators.** The role of the PhD coordinators should be specified and communicated more clearly to the individual coordinators as well as to the PhD students. (Anchoring: Head of PhD school and PhD board. Implementation: 2011).

5.3 Infrastructure for holding courses

Recommendations

- **Clear financial framework - Allocation of PhD course funding.** The framework should be setup in a way that ensures sufficient financial motivation for creating PhD courses. For example, it should be made possible for the PhD school to facilitate Master Class courses under the same PhD course student FTE-based economic model that was implemented for the PhD school’s generic courses in the beginning of 2011. This will allow the PhD school to create incentive structures to promote activities within specific subject areas. The FTE funding for the remaining PhD courses should continue to be allocated via the departments. (Anchoring: Faculty Management, head of PhD school, Budget Office. To be implemented and gradually escalated over the course of three years: Generic courses starting from 2011, Master Class courses starting from 2012).
- **Course and event team.** The PhD school should establish a course and event team specialising in course organisation (course website, financial administration, booking of teaching facilities, various types of logistics support for international lecturers etc.). This would give the LIFE-based researchers involved a better chance to focus on the academic

content of the course and generally ensure more professional and smooth hosting of the individual courses (Anchoring: PhD school. Implementation: 2013).

5.4 Cross-faculty collaboration

Recommendations

- **Uniform financial guidelines.** With the aim of decreasing the practical barriers to cross-faculty PhD study programmes, including the organisation of cross-faculty PhD courses, LIFE should work, via KUFUR, to ensure the adoption of reasonably uniform financial guidelines for both PhD programmes and PhD courses at the various faculties at the University of Copenhagen (Anchoring: Head of PhD school, KUFUR. Implementation: 2011).
- **‘Open market’ agreement.** With a view to minimising the practical barriers to collaboration between the Danish universities, LIFE should continuously seek to optimise the ‘Open market’ agreement applying in the PhD area. Moreover, LIFE should ensure good and ongoing direct communication between the heads of the PhD schools at the Danish universities working within the scientific and technical area (Anchoring: Head of PhD school KUFUR. Implementation: From 2011).

5.5 Ensuring academic environments and well-functioning social environments

The individual PhD student and the supervisor team share the responsibility for ensuring both a well-functioning and broad academic and social environment during the PhD student’s PhD education.

Recommendations

- **Establishment of PhD house and PhD front desk.** Within LIFE’s area, space should be found for a PhD house. As a basic model, the Task Force is picturing a lounge area with a kitchenette and wireless internet as well as teaching facilities for approx. 30 students. Such a PhD House could advantageously be used for various PhD courses and workshops, which timing-wise run across LIFE’s ordinary course structure, as well as for PhD seminars and, possibly, for PhD thesis defence. In addition, the PhD House could, also with advantage, be co-localised with the PhD office and PhD front desk (Anchoring: Faculty Management and head of PhD school. Implementation: 2013).
- **Establishment of alumni PhD network.** An alumni PhD network should be established to serve as a job and career network. For LIFE, the network could play the dual role of employer representative panel and communication link with former PhD students now working in key national and international environments. The network should also be utilised to ensure good international research collaboration (Anchoring: Research and Innovation Office (FIK) and PhD school. Implementation: 2013).

5.6 Internationalisation – international PhDs in the Danish Labour Market

In the future, Denmark will need plenty of highly qualified international labour. For this reason alone, a continued strong international commitment is required. The majority of LIFE’s current international PhD programme collaborations are still expected to be anchored in the very extensive portfolio of flexible, personally driven and more or less informal research collaborations run by the individual LIFE researchers.

A very large number of PhD students and their supervisors benefit from these collaborations, and it is important that there is continued extensive support for and recognition of these types of collaboration. A small part of LIFE's international PhD programme collaborations is anchored in a group of formal and therefore far more visible networks: NOVA, IARU, EU Initial Training Networks etc.

The increasingly widespread international collaboration has led to a need for double PhD degrees, i.e. PhD degrees from both LIFE and the collaboration university.

Recommendations

- **Double degrees.** Like several other Danish universities, LIFE/the University of Copenhagen should allow double degrees with international partners (Anchoring: KUFUR/KUFIR, associate dean for research, head of PhD school and PhD board. Implementation: 2011).
- **Retaining the best students for research.** To promote the integration of LIFE's international PhD students in the Danish labour market for research and development, LIFE should make special efforts to retain the best young international researchers in the research-related environments in industry as well as at the university during the particularly 'job sensitive' period immediately following the completion of the PhD programme. The Task Force recommends that research policy work be carried out via the University of Copenhagen in order to secure better access to postdoc funds for this particular employee group during the first year after the PhD programme is completed (Anchoring: Associate dean for research, KUFIR. Implementation: 2013).

5.7 Business collaboration and employer representative panel

Establishment of employer representative panel: A growing number of the PhDs from LIFE find employment in the private sector. It is therefore important to continuously work towards facilitating the transition from PhD studies to business career.

Recommendations

- **Establishment of employer representative panel.** A panel of employer representatives should be established with representatives from major companies, professional organisations as well as public organisations. The panel of employer representatives should be utilised both as an advisory panel for the PhD school at LIFE and as a bridgehead to the industry with a view to increasing the interest in industrial PhD projects (Anchoring: PhD board and Faculty Management. Implementation: 2012).
- **'Research in Danish industry' days.** To promote the contact between PhD students and researchers in the Danish business community, a number of annual 'Research in Danish industry' days should be initiated under the auspices of the 'wet' faculties at the University of Copenhagen and the Technical University of Denmark (DTU). The subject areas covered on these days should have a common theme aiming to create the best possible match between industrial partners and PhD students and postdocs (Anchoring: KUFUR. Implementation: 2012).
- **Improved coordination between business affairs units when advantageous.** Closer coordination should be ensured between the different business affairs units at the University of Copenhagen. This could be based on a model where it, for cross-faculty projects, is made possible that the business affairs unit at Faculty A handles all the University of Copenhagen's collaboration agreements with company N – given that such closer

collaboration is advantageous for both faculties (Anchoring: KUFIR. Implementation: 2012).

6. Administrative organisation of the PhD programme

Summary and prioritised recommendations:

The PhD school at LIFE should be organised in such a way that the academic environments – supervisors and PhD students – can focus on the qualitative and content-related aspects of the PhD programmes, and not on bureaucratic and practical aspects in a broad sense. The recommendations for the administrative organisation have therefore been drawn up based on a general user wish for smoother and more streamlined administration of the PhD area. The Task Force therefore recommends the following:

- **PhD front desk.** A PhD front desk should be established, where representatives from relevant offices at Faculty Services and the PhD school are present. The office should have weekly opening hours and can assist in the preparation of advertisements, budgets and enrolment to ensure faster case administration.
- **Half-year reports.** The half-year reporting system should be reorganised, and a financial/administrative system should be established and be independent of the academic/educational system.
- **File administration system.** An electronic file administration system should be developed to handle the entire PhD studies process.

LIFE's PhD area has been a source of inspiration and has set the example for handling PhD programmes at other faculties and universities. Furthermore, the PhD administration has been able to absorb a strongly increasing PhD student intake without the resource allocation being increased correspondingly. The increased intake of PhD students has, however, led to heavier pressure on the PhD administration, resulting in bottlenecks, and the administrative processes are at times perceived as unnecessarily cumbersome from the users' point of view. Many of the problems pointed out during the Task Force process therefore concerns optimisation of the PhD administration.

Purpose of the PhD administration: The PhD administration at LIFE is governed by the University of Copenhagen's financial and academic guidelines, which, again, have been adapted to the local conditions at LIFE by the Budget Office and the PhD school (e.g. *Fagligt regelsæt for Ph.d. uddannelsen ved det Biovidenskabelige Fakultet på Københavns Universitet* and *Økonomiske retningslinier for ph.d.-uddannelsen ved LIFE 2009*). The overall objective of the administrative organisation is to assure the quality of the PhD programmes financially as well as academically, in order to guarantee the PhD student an appropriate and realistic PhD programme within the financial and legal framework.

Organisation: The PhD area comprises de-central (department level) and central administration (Faculty Services). The number of players is relatively high and many of the perceived problems occur from this fact in combination with lack of insight in routines, guidelines and legislation in adjacent work areas. Furthermore, the departments organise their part of the PhD administration in different ways resulting in varying points-of-contact with the Faculty Services.

6.1 Status

The individual PhD programmes takes place under the auspices of the PhD school and can be divided into five phases, involving internal and external players:

Phase:	Main players:
1. Financing	Project owner, financial partners, Department, Research and Innovation Office (FIK), Budget Office.
2. Recruitment	Supervisor team/project owner, Department, PhD school, Study and Students' Affairs, HR.
3. Enrolment	Supervisor team/PhD student, Department, PhD school, Study and Students' Affairs.
4. Appointment	Supervisor team/PhD student, Department, Budget Office, HR.
5. PhD education	PhD student/supervisor team, Department, Budget Office, PhD school, Study and Students' Affairs.

Financial models: LIFE operates with three different main financing models: Internally financed PhD projects, jointly financed PhD projects (incl. Industrial PhDs) and externally financed PhD projects. There are different administrative requirements for the management of the various models, but all five phases must be considered in each individual case. The administration of the purely internally financed and purely externally financed scholarships is fairly simple, whereas the jointly financed scholarships often cause problems and may take a long time as described in the following.

Financing: The PhD student is enrolled at LIFE as a PhD student, but there is no requirement for the PhD student to be employed at LIFE or for financing to be procured by LIFE. If the student is employed at LIFE, the Budget Office must ensure that sufficient funding is available in order for the project to be completed. Following de-centralisation of funding, this responsibility will be handed over to the departments in 2011. Before recruitment can take place, the project owner must document to the Budget Office that the required funding is available. Any intellectual property rights issues which may be conditional on the preparation of a project-specific collaboration contract must also be addressed.

Recruitment: In most cases, the supervisor team prepares a job advertisement together with the departmental administration. The advertisement is announced at LIFE by HR. Applications are received by the department, which checks their legality and submits them to an expert assessment committee, which assesses the suitability of the applicants for the project in question. Subsequently, a committee typically consisting of the supervisor team nominates the candidate who is to be recommended for enrolment and appointment. If funding is achieved for appointing a named candidate, this step is omitted (e.g. *ErhvervsPhD*).

Enrolment: Following recommendation from the principal supervisor's department, the PhD school assesses whether the candidate can be admitted to the PhD programme, including whether an acceptable PhD plan is available. Financing must be confirmed by the Budget Office/Department before enrolment can take place and the PhD school can make a joint financing agreement.

Appointment: If the candidate can be enrolled as a PhD student, HR is responsible for ensuring that a letter of appointment is sent to the candidate, except for those PhD students who are not employed with LIFE, but with external public or private partners in Denmark and abroad (approx. 20%). In

addition, there are PhD students enrolled on a 4+4 programme (1%), *ErhvervsPhD students* (4%) and self-financed PhD students (<1%) who will not go through the normal appointment procedure.

Project: The PhD student completes the PhD programme at a department at LIFE. However, the student does not need to have LIFE as his or her primary workplace. The PhD programme is described in the PhD plan and completed in accordance with the academic rules for the PhD programme *Fagligt regelsæt for ph.d.-uddannelsen*. The PhD school continuously assures the quality of the individual PhD projects via the half-year reporting system, which is also used as a financial management tool by the Budget Office and the departments.

6.2 Challenges

The Task Force's SWOT analysis and the round of interviews held in connection with the Task Force process indicate a number of challenges in respect of the PhD administration and particularly its interface with the users:

Many players. As described above, the PhD administration involves a large number of players at Faculty Services and in the departments. Add to this, researcher training networks in the form of research training programmes, major single grants and, for example, EU Initial Training Networks, which handle part of the PhD administration on behalf of departments. In many cases, these units operate across faculties, universities and national borders. In addition, the organisation of the departments at LIFE varies, and Faculty Services' interface with the departments is therefore highly diverse.

Good but complex structure. The PhD administration is complex, but sufficiently well-structured to handle the large additional intake over the past years. However, the increasing pressure reveals bottlenecks internally in the LIFE system. These bottlenecks are partly attributable to the specific administrative practice employed at LIFE, but also stem from limited resources in the PhD administration in general. The problems arise from the fact that the PhD students are both in an employment relation and an educational relation. Administratively, the two relationships are handled by department/Budget Office/HR and PhD school/Study and Students' Affairs/department, respectively. What is deemed to be natural and appropriate for one group is perceived as unnecessarily bureaucratic by the other. The academic rules for the PhD programme at the Faculty of Life Sciences at the University of Copenhagen (*Fagligt regelsæt for ph.d.-uddannelsen ved det Biovidenskabelige Fakultet på Københavns Universitet*), including the academic administrative forms, in particular, are perceived as unnecessarily cumbersome by the Budget Office, department administrators and many supervisors and students. Many supervisors feel they are spending inordinate amounts of time on the administration of PhD students, as they each only have a few PhD students and thus lack routine in the administrative procedures. Lack of routine may also lead to erroneous PhD cases being submitted to the Faculty Services resulting in time-consuming case-handling and rejection of applications and requests (e.g. enrolment and courses).

<p>Strengths</p> <ul style="list-style-type: none"> – Structure supporting quality assurance – Transparent and simple application process for applicants – Good and effective website – Well-functioning and well-coordinated PhD school/administration (small compact unit) – Well-functioning PhD board – Possibility of project and career management via the half-year reporting system 	<p>Opportunities</p> <ul style="list-style-type: none"> – Best practice investigation of the PhD area in the Danish universities – Digitalisation of the PhD administration – Coordination of the PhD administration systems at the University of Copenhagen
<p>Weaknesses</p> <ul style="list-style-type: none"> – Bottlenecks and serial case administration result in long 	<p>Threats</p> <ul style="list-style-type: none"> – Inexpedient restructuring of the PhD

<p>handling times</p> <ul style="list-style-type: none"> – Unclear expectations for supervisors during recruitment phase – Many forms with repeated completion of master data – Dubious academic value of the half-year reporting system – The mix of many different financial models poses large challenges for the administration – Recruitment problems: There are many unqualified applicants, and it is difficult to guarantee that the best qualified applicants are spotted 	<p>programme/administration (University of Copenhagen specific or due to new legislation)</p> <ul style="list-style-type: none"> – Risk of good applicants accepting other jobs or that the financing tapers off during the employment period – The payment for the first year of international students on the 4+4 programme remains unclarified at University of Copenhagen level
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Complexity. Many users perceive the PhD administration as unnecessarily difficult to understand, time consuming and bureaucratic. A perception which has been reinforced due to longer waiting times following the increased intake of PhD students and the more complex financing models used today.

Bottlenecks. The management of LIFE's jointly financed scholarships is especially problematic as the combination of bottlenecks and many administrative steps leads to prolonged case administration from financing to appointment. For the PhD candidates, the case administration time results in a waste of time career-wise during the transition from graduation to the PhD programme. In particularly unfortunate cases, the case administration time may result in breach of contract because the collaboration partner is looking for other partners or in the best candidates having found employment in the meantime.

6.3 Recommendations and means

There is a need for a restructuring of the PhD administration at LIFE to bring down the case administration time and to eliminate unnecessary administrative steps centrally and de-centrally. The Task Force recommends that the Faculty Management consider the following means:

6.4 Overall conditions

Recommendations

- **PhD front desk.** A front desk with fixed weekly opening hours should be established with representatives from all relevant offices at Faculty Services and from the PhD school. The purpose of the front desk is to ensure that people who need administrative support from Faculty Services (students, supervisors, admin., staff, etc.) can get that support through *one* person. This is done to avoid the need for people to contact many different offices (Budget, Study and Students' Affairs, HR) depending on the nature of their questions. (Anchoring: Faculty Management, head of PhD school. Implementation: 2012).
- **Reorganisation of the half-year report system.** The quality assurance system for the PhD projects (half-year reporting system) should be reorganised. The academic/educational quality assurance should be separated from the financial management model as the management criteria for the two aspects differ. The PhD school and supervisor team should subsequently collaborate on handling the quality assurance of the academic part of the programme, while the departments in collaboration with the Budget Office and HR should handle the remaining administration (employment terms, pay and operation). The half-year reporting system is presently being changed in this direction by the Budget Office and the departmental administrations. This process is strongly encouraged by the Task Force. (Anchoring: Budget Office and PhD school for the relevant parts. Implementation: 2011).

- **Electronic documents and digital signatures.** The use of electronic documents and digital signatures should be promoted in the internal case administration in the short term. To make this possible, the PhD school should develop a low-tech, internet-based digital solution for handling the administrative forms (Anchoring: PhD school. Implementation: 2011).
- **File administration system.** In the long term, the University of Copenhagen should have an electronic file administration system developed, which satisfies the various administrative requirements for the entire PhD programme. There should be a unique person tracking number for each PhD student to ensure that all material can be obtained via a PhD database central to the user and with interface to STADS, ScanPas, etc. If possible, such a system should be introduced at a university rather than at a faculty level. (Anchoring: KUFUR. Implementation: 2012).
- **Minimisation of time consumption in connection with appointment.** The time consumption from application deadline to appointment should be minimised and the file administration in connection with enrolment and appointment should not take longer than ten working days, provided that all necessary documentation is present (Anchoring: PhD administration, Budget Office and HR. Implementation: 2011).
- **Organisation of departmental PhD administration.** To improve the points-of-contact between the departments/supervisor teams and Faculty Services, a PhD front desk is suggested. Moreover, training of the departmental PhD administration in PhD affairs should be considered (legal and financial administrative affairs, including quality assurance of the education). Some departments may consider concentrating all the administrative PhD relations on a few persons. (Anchoring: Departments and HR. Implementation: 2012).

6.5 Financing

Recommendations

- **Budget and joint financing agreement.** A 1-page budget and financing plan must exist before a PhD position can be advertised and enrolment take place. The plan must be approved by the Head of Department. (Anchoring: Budget Office and departmental administration. Implementation: 2011).
- **One-page standard financial commitment.** In collaboration with the departmental administrative units, the Budget Office should develop a one-page standard financial commitment for use by co-financing partners (Anchoring: Budget Office and departmental administration units. Implementation: 2011).
- **Dissemination of financial guidelines.** The Budget Office should in collaboration with the departmental administration units improve dissemination of the existing financial guidelines for the management of PhD projects and prepare user-friendly financing forms and instructions for the use of operating funds as well as financing models for PhD courses (e.g. models for internal/external funding and user payment) (Anchoring: Budget Office and departmental administration units. Implementation: 2011).

6.6 Recruitment and enrolment

- **New procedure for assessing applicants.** The PhD school should develop a new procedure for assessing PhD applicants in order to facilitate procedures as well as the handling of very large fields of applicants (Anchoring: PhD school. Implementation: 2011).

6.7 Appointment and project

- **Accessibility of administrative information.** The PhD school should together with the departments and HR should develop a procedure which ensures that all information about changes in working hours, sick leave or parental leave is available to all stakeholders, i.e. department, PhD student, supervisor and PhD school (Anchoring: Central Management Forum (CLF). Implementation: 2011).
- **Signatures on forms.** The PhD school should reassess the need for signatures on the various PhD forms (Anchoring: PhD school. Implementation: 2011).
- **Use of Absalon.** Wherever advantageous, Absalon should be implemented for administration and for executing PhD courses, including course evaluation (Anchoring: PhD school. Implementation: 2012).
- **Project management guidelines.** Standardised project management guidelines on PhD projects should be prepared for departments, supervisors and PhD students on the basis of existing guidelines at the departments (Anchoring: Head of department group/Central Management Forum (CLF). Implementation: 2012).
- **Ongoing reassessment of the academic rules.** The PhD school should prepare a procedure for ongoing reassessment of the academic rules for the PhD programme at the Faculty of Life Sciences at the University of Copenhagen (*Fagligt regelsæt for ph.d.-uddannelsen ved det Biovidenskabelige Fakultet på Københavns Universitet*) as well as for the administrative procedures in the PhD administration (Anchoring: Faculty Services and PhD board. Implementation: 2012).
- **Smooth awarding of the PhD degree.** Via KUFUR, the PhD school should affect the legislation with the aim of achieving a faster process in connection with PhD degrees being awarded (Anchoring: PhD school/KUFUR. Implementation: 2012).

7. Financial prioritisation of the PhD programme - including prioritisation of the faculty's PhD stipend funding.

Summary and prioritised recommendations:

The PhD area at LIFE exceeds DKK 200 million per year, of which almost 50% is financed by LIFE, among other things via the so-called globalisation funds. The responsibility for the basic prioritisation of the grant funding rests with the Faculty Management, which assesses, on an ongoing basis, whether the prioritisation and use of PhD funds is appropriate.

- **Prioritised full funding as well as co-financing.** The task force recommends a continued distribution of the faculty grant funding into centrally prioritised fully funded stipends as well as co-financing of externally funded PhD projects.
- **Tuition fee principles.** The principles for the use of PhD student tuition fees should be laid down to safeguard, to a higher extent, the financial basis for a broad and varied course portfolio and to ensure that PhD students can use the funding for attending PhD courses abroad.

The turnover for the PhD area at LIFE exceeds DKK 200 million per year, of which almost 50% is ascribable to own financing, for example via the so-called globalisation funds. The responsibility for the basic prioritisation of the grant funding rests with LIFE's Faculty Management, and it is recommended that it be assessed on an ongoing basis whether the PhD grant funding is being prioritised and used in the most appropriate manner, including whether we are getting the most value for money. This also applies in relation to the overall distribution of the grant funding in fully and partially financed PhD projects, respectively, in relation to the possibilities of prioritising co-financing at faculty and departmental level and in relation to whether the funds allocated to the individual PhD projects are being used in the most appropriate manner.

7.1 Prioritisation of faculty grant funding – status

Background

The plan for the allocation of LIFE's internal grant funding in 2012 is as follows:⁸

- 18 fully financed stipends for *faculty PhD scholars* for distribution according only to the academic merits of the candidates by the associate dean for research via the PhD board and PhD school⁹.
- 22 fully financed scholarships for *elite research areas* for distribution by the associate dean for research via the PhD board and PhD school.
- 180 1/3 scholarships for co-financing and gearing of externally co-financed PhD projects and to be distributed and prioritised via the Departments at LIFE.

LIFE's Faculty Management decides on the prioritisation of the grant funding.

⁸ Cf. the resolution minutes from LIFE's Faculty Management from 14 December 2010.

⁹ The former so-called "ordinary scholarships".

LIFE's fully financed PhD projects

The Task Force supports the allocation of fully financed scholarships towards, respectively, the most talented students, the *Faculty PhD scholars*, and the strongest research environments, the *Elite research areas* (or otherwise selected research environments). As concerns this category of projects, it is an ongoing balancing act to ensure that the Faculty PhD Scholars are utilising their freedom of research while at the same time establishing their research expertise within an area that offers sufficiently a sufficiently good academic framework as well as subsequent career opportunities. As concerns the externally funded project category, including the current elite research areas, it will be a challenge to attract the most talented students to the more academically restricted projects.

Recommendations

- **Project management course and career coaching.** The *faculty PhD scholars* who are granted extraordinary freedom of research should be offered a project management course and a career coaching course. The purpose of these courses is to ensure that the students benefit as much as possible from their freedom of research as well as to ensure that they are aware of the career choices that they make and reject via their studies. If the model is a success, the courses should be offered to a wider group of PhD students in future (Anchoring: PhD school and HR. Implementation: 2012).
- **Recruitment for the elite research area projects.** The Task Force recommends that a combination of directly relevant project qualifications and a high grade point average are used as the criteria when selecting the students for the elite research area projects. In order to promote competition between the best PhD candidates, at least twice as many projects as there are potential positions should be advertised (Anchoring: PhD school, HR and Faculty Management. Implementation: 2011).

7.2 LIFE's co-financed PhD projects

In the future, the 180 annual 1/3 projects should be distributed on the basis of targets for the individual departments and with flexibility built into their use. The Task Force finds it less important whether the funds are allocated to the projects via departments or the faculty, but we strongly support a continued 'automatic' aspect in the 1/3 co-financing, which we deem to be especially useful in relation to researchers' fundraising activities in respect of the remaining 2/3 financing.

Our ability to attract international collaboration and financing partners for jointly financed projects is restricted by the high level of salaries and costs in Denmark. The Task Force is of the opinion that it would be an advantage for LIFE to show greater flexibility, within the legal framework, than it does at the moment, e.g. in relation to financing and the employment of PhD students at more than one university.

Recommendations

- **Flexibility in relation to co-financing.** The Task Force recommends a model for the distribution of LIFE's co-financing which offers the greatest possible flexibility at department level to ensure that the departments have the freedom to act in accordance with the strategy and targets defined in the research environments and to make it possible for the departments to set out explicit priorities for core academic areas including teaching areas, cf. the proposal for the Central Management Forum (CLF) of 3 March 2010 (Anchoring: Faculty Management, Budget Office and CLF. Implementation: 2011).

7.3 Other financial prioritisation of the PhD area

Some of the Task Force's recommendations involve expenses and require financial reprioritisation as a real condition for any development in the area. The Task Force is of the opinion, however, that the funds are available already thanks to the present financing model for the PhD projects¹⁰ along with the principles described e.g. in the "Financial guidelines for the PhD education at LIFE"¹¹. Generally, the Task Force recommends full transparency in respect of the funding already allocated to the PhD area via teachings contributions, project funds and other operating funds, respectively. The primary purpose is to ensure overview and flexibility with a view to optimum utilisation of the funding as well as improving the possibilities of making the right financial prioritisations in respect of the strategy adopted.

7.4 Use of PhD tuition fee

Recommendation

- **Tuition fee principles.** PhD tuition fee should be used for PhD courses and distributed via the PhD school. The Task Force recommends that the annual PhD fee for 'PhD courses, PhD school etc.' (currently DKK 26,000/student/year) should be used via the PhD school as a framework amount. In this context, the PhD school should be given full responsibility for A) ensuring the organisation of PhD course offerings and the financing of PhD courses, either via the departments or the PhD school¹², B) co-financing teaching expenses incurred when PhD students participate in PhD courses abroad¹³, C) ensuring (in collaboration with the relevant department) that the PhD defence is held, including payment to opponents and coverage of travel expenses as well as practical assistance for holding the reception in connection with the defence¹⁴ (Anchoring: Faculty Management, Budget Office and head of PhD school. Implementation: 2012).

7.5 Use of project funds

The departments' budgets are under pressure. As a consequence, the specific PhD funds are used increasingly for other and broader purposes than intended in the PhD rules. This means that the students in some environments are unable to obtain cover for project expenses, e.g. in connection with stays abroad, because the funds have been prioritised for other purposes.

Recommendation

- **Use of project funds:** The heads of department have the ultimate responsibility and authority in relation to budgetary matters incl. PhD project funding and these funds should be used to cover expenses that relate directly to the PhD projects. It is important that the PhD project funding to the greatest extent possible be managed and prioritised by the PhD student, guided by her/his supervisor. The student and supervisor should plan and approve the use of the funds within the three-year period in order to ensure that PhD students gain an experience in financial prioritisation of research projects as part of their PhD studies, All PhD students should be offered a short financial management introduction or course in connection with project start-up (Anchoring: Budget Office and departmental administration units. Implementation: 2012).

¹⁰ For a brief overview of the current price of a PhD FTE, please see: www.life.ku.dk/phdindra

¹¹ www.life.ku.dk/phdindra

¹² Model inspired by the Faculty of Health Sciences (KU-SUND) and Foulum.

¹³ Model inspired by the Faculty of Health Sciences (KU-SUND) and Wageningen University.

¹⁴ Model inspired by Foulum.

7.6 Finances to ensure optimum administrative support for PhD projects

Over the last few years, LIFE's PhD administration has come under hard pressure as a consequence of the higher PhD student intake. This results in very long case administration times, which, as discussed under the item 'Administrative organisation of the PhD programme', causes much frustration among the users of the administration system. As more PhD students are expected, all else being equal, to result in more PhD administration and thus higher total PhD costs, the Task Force, in connection with a review of the administrative procedures, urges that it also be considered whether sufficient administrative resources have been allocated to the area.

Drawing up concrete recommendations for the financial prioritisation of the PhD administration area falls outside the terms of reference of the Task Force. The Task Force recommends, however, that, at a future review of the area, user representatives be involved in this work, including PhD students and PhD supervisors, in addition to the representatives from the administrator group.



Task Force TERMS OF REFERENCE for the preparation of a vision, strategy and objectives for the PhD programme at LIFE

With reference to the strategic initiative which the PhD area represents at LIFE, LIFE's Faculty Management wishes to appoint a Task Force which must prepare a vision and a strategy with related substrategies. In this context, the Task Force must define the overall quantifiable objectives as well as investigate whether the current organisational setup enables LIFE to meet the objectives. The preparation of a strategy for the PhD area must also comprise proposals for general initiatives at the University of Copenhagen to be recommended to and discussed in the University of Copenhagen's Research Training Council, KUFUR.

As part of this work and based on an in-depth investigation of the PhD area, substrategies must be prepared and targets defined within four areas:

- **Quality of the PhD programme, including PhD intake, PhD supervision and PhD course offerings as well as graduation rate and study completion time**
- **Academic organisation of LIFE's PhD school, including safeguarding of academic environments and well-functioning social environments, internationalisation and business collaboration**
- **Administrative organisation of LIFE's PhD school, including different scenarios for optimum and efficient use of the administrative functions**
- **Prioritisation of the faculty's PhD grant funding**

Proposals for elements for the substrategies are set out in Appendix I.

The development of the strategy must be based on both internal and external factors. The basis for the strategy could, for example, be an introductory SWOT analysis and a round of interviews conducted on the initiative of the Task Force.

The Task Force must consult business partners about the Task Force's prioritisations and obtain viewpoints on business interests and needs in respect of the PhD programme.

The Task Force may use the analyses and work performed at Faculty Services. This means, among other things, that the results from the dialogue meeting about the PhD area held on 27 May 2010 must be used. Furthermore, the Task Force must draw on experience from other faculties at the University of Copenhagen and from other universities.

It must be possible to realise the strategy by means of action plans which describe specific activities and new initiatives, ensuring the implementation of the strategy and the accomplishment of the overall strategic objectives.

The **Task Force**, which will consist of six members, will be reporting to LIFE's Faculty Management:

- Associate dean for research (chairman)
- Head of PhD school
- Two members of the PhD board (chairman + one student)
- One member of the Academic Council or appointed by the Academic Council
- One member of the Strategic Committee on Science, Technology and Innovation (FIU) or appointed by FIU

The associate dean for research will be the chairman of the group. Study and Students' Affairs will make a secretary available for the Task Force. Other Faculty Services functions will be involved on an ongoing basis and as required. The Task Force will be appointed in **October 2010** and is expected to report proposals for a vision and strategy to LIFE's Faculty Management at the **end of February 2011**. The Task Force will function as a steering group and may appoint one or more working groups.

APPENDIX 1: Specific substrategies

Quality of the PhD programme, including PhD intake, PhD supervision and PhD course offerings

Offering of PhD courses

A strategy must be established for the offering of PhD courses, the number of courses and quality assurance.

Strategy for PhD course language.

Strategy for attracting other Danish and foreign students.

Strategy for LIFE students participating in courses outside LIFE, at the University of Copenhagen, in Denmark, internationally.

Subcommittees:

The Task Force may, in collaboration with the PhD board and FIU/Academic Council, appoint subcommittees with a view to:

- Assessing the current offering of PhD courses at LIFE: quantitatively and qualitatively
- Developing targets for quality assurance of PhD courses
- Developing targets for quality assurance of PhD supervisors and PhD course lecturers
- Elucidating the financial aspects in respect of PhD courses, academic LIFE courses, generic courses, external students at LIFE and LIFE students externally. Assessing the possibilities of introducing student full-time equivalents (FTE)

Intake and completion of studies for PhD students

A strategy must be prepared for student intake, number and qualifications. In addition, a strategy must be prepared for how the realisation of these strategies is ensured and documented, e.g. through statistical information.

The recruitment must be examined with focus on:

- Strategy for optimum number and optimum profile of students, including international share
- Strategy for attracting the right students
- Strategy for LIFE financing/co-financing

Subcommittees:

The statistical information concerning the PhD programme must be safeguarded in collaboration with the PhD administration. A plan must be prepared for the preparation and reporting of statistical information on the PhD programme to LIFE's management, including:

- Student intake numbers and number of completed PhD studies
- Number of students with Danish/foreign educational background
- Study completion time for the PhD programme (incl./excl. leaves of absence)
- Occupation one year after the award of the PhD degree and five years after the award of the PhD degree

Internationalisation

A strategy must be prepared, focusing on, for example, strategic collaboration with selected foreign universities in the form of:

- LIFE students' long-term (3-6 months) stays abroad
- Foreign students to LIFE (scope)
- Strategy for joint PhD degree/double PhD degree

Career planning

A strategy must be prepared for the PhD school's activities in relation to the PhD students' career planning, including for LIFE ensuring contact between students and business representatives and knowledge of the needs of the business community and public institutions.

Social aspects

A strategy must be prepared for the social aspects for PhD students.

In connection with the assessment of needs and wishes, a group may be appointed to determine:

- The need for integrated LIFE initiatives in respect of social events
- The need for and format of networks among PhD students

- Special needs of foreign students

Academic organisation of LIFE's PhD school, including safeguarding of academic environments and well-functioning social environments

Organisation of LIFE's PhD school

As a replacement for/further development of the former research training programmes (FUP), a strategy must be prepared for quality assurance of the academic environments relevant to the PhD programme as well as their interaction with each other and with other Danish and international environments. It must be assessed how the environments and the interdisciplinary activities can be safeguarded financially and how these tasks will be perceived as an integrated part of LIFE's departments in future.

Business collaboration

A proposal for a strategy for increased business collaboration must be prepared, including on co-supervisors from the industry. Specifically, a strategy must be prepared on:

- Intake of industrial PhDs
- Establishment of a panel of employer representatives

Administrative organisation of LIFE's PhD school, including different scenarios for the administrative functions

Administrative organisation of LIFE's PhD school

A strategy must be prepared for the administrative procedures involved in the PhD programme, including enrolment, appointment and various follow-up activities.

In collaboration with the relevant offices at the faculty administration (PhD administration at Study and Students' Affairs, the Budget Office, the Research and Innovation Office, Business Affairs and HR), different scenarios for realising the strategy must be developed to illustrate the optimum function of the administration. This includes a discussion of the advantages/disadvantages of having one central unit in the form of a 'graduate office'.

Financial prioritisation of the PhD area, including prioritisation of the faculty's PhD grant funding

Different scenarios for the future financial prioritisation of the PhD area must be developed and discussed. Based on these scenarios, it must be assessed whether the University of Copenhagen, LIFE is prioritising the PhD grant funding in the optimum manner such that, for example, both established and emerging elite research areas are supported and that the continued recruiting of the best qualified candidates is thus ensured.

Persons who have provided input during the PhD Task Force process



List of person who have been guests at the Task Force meetings or in other ways have contributed personally and directly to the Task Force's work.

- Niels Billestrup, Professor, Head of PhD School – UC HEALTH
- Karin Stilling Christensen, HR employee at LIFE
- Uffe Gammelgaard, Head of the budget office at LIFE
- Hanne Gredal, PhD student
- Brian Grout, Professor at LIFE
- Anna Haldrup, former Head of department at LIFE
- Søren Fløe Jensen, Department administrator
- Karsten Høegh Jensen, Professor, Head of PhD School – UC SCIENCE
- Flemming Steen Jørgensen, Professor, Head of PhD School – UC PHARMA
- Lise Walsted Kristensen, Head of office at Research and Innovation office
- Karsten Kryger, Special Consultant
- Morten Andersen Linnet, Team Leader at Danish Agricultural & Food Council
- Jens Lykkesfeldt, Professor at LIFE
- Martin Magelund Rasmussen, Head of secretariat
- Maja Kamstrup Nielsen, PhD student
- Marianne Nilsen, Head of HR office at LIFE
- Elise Nordberg, Senior researcher, Head of PhD school, SAFE, AU
- Charlotte Rønhof, Head of Research Policy at Danish Industry
- Agnete Vibholt, Registrar