

Decision Regarding Assessment of the Life Sciences Study Programme Group at the Level of Doctoral Studies

Tallinn University

21/08/2018

The Quality Assessment Council for Higher Education at the Estonian Quality Agency for Higher and Vocational Education decided to approve the report by the Assessment Committee and to conduct the next quality assessment of the Life Sciences study programme group at the level of doctoral studies at Tallinn University in three years

On the basis of subsection 10 (4) of the Universities Act and point 40.3 of the document ‘Quality Assessment of Study Programme Groups at the Level of Doctoral Studies’, authorised in points 3.7.3 and 3.7.1 of the Statutes of the Estonian Quality Agency for Higher and Vocational Education (hereinafter referred to as ‘EKKA’), the EKKA Quality Assessment Council for Higher Education (hereinafter referred to as ‘the Council’) affirms the following:

1. On 21.03.2017 Tallinn University and EKKA agreed upon a time frame to conduct a quality assessment of the study programme group.
2. The Director of EKKA, by her order on 15.02.2018, approved the following membership of the quality assessment committee for the Life Sciences study programme group at the level of doctoral studies at the Estonian University of Life Sciences, Tallinn University, Tallinn University of Technology and the University of Tartu (hereinafter referred to as ‘the Committee’):

Rik Leemans (Chair)	Professor, Wageningen University, Holland
Laurent Counillon	Professor, University of Nice-Sophia Antipolis, France
Markus Dettenhofer	Executive Director, Central European Institute of Technology Czech Republic
Kari Keinänen	Professor, University of Helsinki, Finland
Owen Lewis	Professor, University of Oxford, UK
Hynek Roubik	PhD student, Czech University of Life Sciences Prague, Czech Republic
Andrus Tasa	CEO, Tartu Biotechnology Park, Estonia

3. Tallinn University submitted the following doctoral programmes for evaluation under the Life Sciences study programme group:

Analytical Biochemistry
Ecology

4. Tallinn University submitted a self-evaluation report to the EKKA Bureau on 9.01.2018 and the assessment coordinator forwarded it to the Committee on 12.02.2018.
5. An assessment visit was made to Tallinn University on 13.04.2018.
6. The Committee sent its draft assessment report to the EKKA Bureau on 25.06.2018, EKKA forwarded it to Tallinn University for its comments on 29.06.2018 and the University delivered its response on 12.07.2018.
7. The Committee submitted its final assessment report to the EKKA Bureau on 20.07.2018. That assessment report is an integral part of the decision, and is available on the EKKA website.
8. The Secretary of the Council forwarded the Committee's final assessment report along with the University's self-evaluation report to the Council members on 2.08.2018.
9. The Council with 9 members present discussed these received documents in its session on 21.08.2018 and, based on the assessment report, decided to point out the following strengths, areas for improvement, and recommendations regarding the Life Sciences study programme group at the level of doctoral studies at Tallinn University.

The Committee pointed out the following common areas for improvement and recommendations regarding the Life Sciences study programme group at the University of Tartu, the Estonian University of Life Sciences, Tallinn University of Technology and Tallinn University:

- 1) Given that European Union funding is decreasing in the coming years and universities need more stable and sustainable funding, they should be more active in lobbying to increase their research and development funds to 1% of GDP.
- 2) Universities and their doctoral programmes need to increase their capabilities to ensure the critical mass of externally funded projects and also a higher success rate in applying for H2020, InterREG and ERC grants. Proactive activities by university grant offices would help to achieve this.
- 3) Despite the recent rise in stipends for doctoral students, they are still very low, leading to discontinuations of studies, decreased motivation and increased stress. Universities should engage in more vigorous lobbying to increase their PhD students' national stipends to at least EUR 1,200. If this fails, universities should find ways to ensure this income level for their doctoral students.
- 4) Although the dropout rates are high by European standards, a thorough analysis of their causes is lacking. It is necessary to develop a better system for monitoring doctoral students' successes and failures. Each doctoral student dropping out should be interviewed focusing on motivation, financial situation and gender-specific problems, among other things.
- 5) Supervisors should guide doctoral students better through realistic and effective research and publication planning, with a view to submitting their doctoral theses in a timely manner and with appropriate length.
- 6) The minimum criterion of three published peer-viewed scientific papers (a prerequisite for the defence of a doctoral thesis) should be reviewed and more flexible rules established; for example, by placing more value on papers published in ISI Web-of-Science Q2 or Q1 journals.
- 7) The annual evaluations of doctoral students should be focused more on content. At the moment, they mainly focus is on quantitative indicators (credits, conferences), but less on the content of research. These evaluations should also include presentations of research results as

well as further research and publication plans, and discussions of these issues between the student, the supervisor and the evaluation committee. In this way, a strategy for doctoral research should be formed, the performance of which must be assessed during subsequent evaluations. The Committee recommends continuing these evaluations even after the doctoral student has completed the nominal study period (as is done, for example, at Tallinn University).

- 8) Continuation of the activities of doctoral schools is at risk due to a likely decrease in European Union funding. Universities should develop a strategy to ensure that their doctoral schools continue to function. Universities also need to encourage all their doctoral programmes and doctoral students to participate in the activities of these schools.
- 9) Doctoral students see positions at universities as their main career prospects. However, this is not possible due to the limited number of such positions. Also, a doctoral degree has not been sufficiently valued in society at large. Doctoral students should be better informed about career opportunities outside of the universities. For example, career counselling seminars could be conducted within the framework of doctoral schools, with the participation of government and non-governmental institutions and the private sector, as well as to use internship opportunities. Universities should better introduce the value of doctorates and the high-level skills that it represents to various societal sectors.
- 10) Although some universities already support the creation of spin-off companies, doctoral students need to be better informed and trained by using the existing success stories.
- 11) The number of funding sources for research projects should be increased. Although there are not many large companies in Estonia, possibilities for funding research projects by larger and smaller companies, government authorities and non-governmental organisations should be explored (including international possibilities).

The Committee pointed out the following strengths, areas for improvement and recommendations regarding the Life Sciences study programme group at Tallinn University:

Strengths

- 1) The infrastructure is up to date. Laboratories are equipped with the latest technology. Access to scientific literature and databases is good.
- 2) Approach to doctoral studies is individual and flexible. The programmes are delivered in a friendly, 'family' atmosphere linking doctoral students and their supervisors. Students are satisfied with their study programmes and options.
- 3) Doctoral students have been given opportunities to complete part of their studies at leading international research universities, as well as to present their research results at international conferences.
- 4) Supervisors have easy access to trainings relating to course design and supervision skills.

Areas for improvement and recommendations

- 1) The main concerns regarding the study programmes include the small number of doctoral students, a wide range of topics and a lack of synergy between them. According to the Committee, it is not competitive or sustainable to cover such broad areas of subject matter with so few supervisors. There are no strong research teams, and research is very fragmented. Admission of doctoral students is not always in line with the existing competency of supervision. As the University's own few supervisors are not able to cover the wide range of doctoral research work, the University is forced to involve co-supervisors, in some cases all supervisors are from abroad.

- 2) Both study programmes should clearly specify their identity and niche in order to be competitive and recruit adequate numbers of doctoral students. Business plans should be developed for the programmes covering the next five to ten years to be able to evaluate different scenarios. Relying only on government support for programmes is not a reasonable choice. A clear vision is needed on how to increase the number of doctoral students to achieve the critical mass that is needed.
- 3) In some cases, doctoral students are in a situation where they work in a laboratory that does not have project money, not even to cover the costs of reagents needed for experiments.
- 4) The small size of study programmes also causes academic isolation for both doctoral students and their supervisors. In order to achieve critical mass, closer interaction with other Estonian universities is needed, for example, in the form of joint seminars/joint courses (especially with the Tallinn University of Technology, located in the same city). It is necessary to develop a strategy to increase the number of the teaching staff.
- 5) Cooperation with research-based enterprises and employers needs to be developed, both at the student and supervisor levels. Funds should be budgeted for doctoral students' internships in companies.
- 6) It is advisable to set up an infrastructure planning committee at the university level and formulate a strategy with priorities for upgrading infrastructure. Priority must be given to restructuring the programmes and, based on this, to purchasing new equipment.
- 7) The feedback questionnaire for doctoral students needs to be improved in order to increase the number of respondents. The current questionnaire is too long and complicated.

ANALYTICAL BIOCHEMISTRY

Strengths

- 1) There have been no dropouts within the programme since its launch in 2012.
- 2) Laboratories are somewhat limited, but well equipped and active.
- 3) Activities of the doctoral school are very well participated in.
- 4) Weekly seminars are held. A YouTube channel has been created to popularise science.

Areas for improvement and recommendations

- 1) Procedures for student admissions are unusual. Student candidates may propose research topics that they want to pursue, and then begin searching for a supervisor. Doctoral students are satisfied with this because they feel that they are in control of their own research. This also allows for the inclusion of doctoral students with atypical profiles. This approach, however, has several drawbacks. It leads to the fact that the topics of doctoral theses cover a very broad spectrum, the research interests of supervisors and supervisees do not coincide, and therefore doctoral students are not able to share in the funding of their supervisors' own research projects.
- 2) The number of doctoral students is small (9).
- 3) In order to increase the motivation and competitiveness of doctoral students, special courses such as data processing should be included in the programme.
- 4) Connections with alumni and the socioeconomic sector need to be strengthened and implemented in the programme's delivery.

ECOLOGY

Strengths

- 1) Foreign co-supervisors are widely used, expanding the opportunities for internationalisation for doctoral students.

Areas for improvement and recommendations

- 1) The title of the study programme is somewhat misleading as it also includes hydrology, mineralogy and other fields. It is advisable to use a more appropriate title, such as 'Environmental Biology' or 'Environmental Science'.
 - 2) The goal that at least half of all doctoral students should complete their studies within six years is not ambitious enough.
 - 3) More courses and learning materials should be offered in English.
 - 4) Connections with the private sector should be improved.
- 10.** Point 40 of the document 'Quality Assessment of Study Programme Groups at the Level of Doctoral Studies' establishes that the Quality Assessment Council shall approve an assessment report within three months after receipt of the report. The Council shall weigh the strengths, areas for improvement, and recommendations pointed out in the assessment report, and then shall decide whether to conduct the next quality assessment of that study programme group in seven, five or three years.
- 11.** The Council weighed the strengths, areas for improvement, and recommendations referred to in point 9 of this document and found that the study programmes have the following critical shortcomings:
- Clause 6 (7) 1) of the Government of the Republic Regulation, 'Standard of Higher Education', prescribes that *the teaching is performed by ordinary teaching and research staff who meet the qualification requirements established in legal instruments and whose number, based on their responsibilities, loads of conducted studies and research, and numbers of students supervised, is sufficient to achieve the objectives and learning outcomes of the study programme.* Clause 6 (7) 2) of the 'Standard of Higher Education', prescribes that *a member of the teaching or research staff who conducts studies in a given subject must have the necessary teaching competence and his or her qualification must support achievement of the objectives and learning outcomes of the study programme.* The main concerns regarding the study programmes include the wide range of topics and a lack of synergy between them, as well as the small numbers of students and staff. There are no strong research teams, and research is very fragmented. Admission of doctoral students is not always in line with the existing competency of supervision.
 - Clause 6 (7) 4) of the 'Standard of Higher Education' prescribes that *necessary premises for studies as well as for research and development activities related to Doctoral study must be available (auditoriums, laboratories, seminar rooms and a library), the furnishings and equipment of which are ample and up-to-date for achieving the objectives of study programmes.* Clause 7) of the same subsection points out that *the financing sources for conducting studies and for research and development activities related to doctoral studies and a strategy supporting their obtainment must be ensured.* In some cases, doctoral students are in a situation where they work in a laboratory that does not have project money, not even to cover the costs of reagents needed for experiments. In the Analytical Biochemistry programme, the topics of doctoral theses cover a very broad spectrum, the research interests of supervisors and supervisees do not coincide, and therefore doctoral students are not able to share in the funding of their supervisors' own research projects. It is advisable to set up an infrastructure planning committee at the university level, and formulate a strategy with priorities for upgrading infrastructure. Priority must be given to restructuring the programmes and, based on this, to purchasing new equipment. Both study programmes should clearly specify their identity and niche in order to be competitive. Business plans should be developed for the programmes covering the next five to ten years to be able to evaluate different scenarios. Relying only on government support for programmes is not a reasonable choice. A clear vision is needed on how to increase the number of doctoral students to achieve the critical mass that is required.

- Subsection 6 (5) of the 'Standard of Higher Education', prescribes that *the title and structure of a study programme must be consistent*. The title of the Ecology programme is somewhat misleading as it also includes hydrology, mineralogy and other fields. It is advisable to use a more appropriate title, such as 'Environmental Biology' or 'Environmental Science'.

12. On the basis of the foregoing, the Council

DECIDED

to approve the assessment report and to conduct the next quality assessment of the Life Sciences study programme group at the level of doctoral studies at Tallinn University in three years.

The decision was adopted by 9 votes in favour and 0 against.

13. The Bureau of EKKA will coordinate a date for the next quality assessment of the study programme group with Tallinn University no later than 21.11.2020.
14. A person who finds that his or her rights have been violated or his or her freedoms restricted by this decision may file a challenge with the EKKA Quality Assessment Council within 30 days after the person filing the challenge became or should have become aware of the contested finding.

The Council shall forward the challenge to its Appeals Committee who shall provide an unbiased opinion in writing regarding the validity of the challenge to the Council, within five days after receipt of the challenge. The Council shall resolve the challenge within ten days of its receipt, taking into account the reasoned opinion of the Appeals Committee. If the challenge needs to be investigated further, the deadline for its review by the Council may be extended by a maximum of thirty days.

A judicial challenge to this decision is possible within 30 days after its delivery, by filing an action with the Tallinn courthouse of the Tallinn Administrative Court pursuant to the procedure provided for in the Code of Administrative Court Procedure.

Eve Eisenschmidt
Chair of the Council

Hillar Bauman
Secretary of the Council