



Graduate School Simulation Technology (GS SimTech) of the
Stuttgart Research Centre for Simulation Technology (SRC SimTech)
under the
Cluster of Excellence "Simulation Technology" of the University of Stuttgart

Regulations ("Ausführungsverordnung", AVO) in the version of 19 February 2013

in addition to the *Promotionsordnung* of the University of Stuttgart from 1 September 2011.

1. Tasks and objectives of the GS SimTech

- a) According to its Statute, the SRC SimTech committed itself to the promotion of young academics through a coordinated doctoral programme (§ 1 of the Statute of the SRC SimTech from 22 February 2008). To fulfill this task, the SRC installed the Graduate School "Simulation Technology" (GS SimTech).
 - The GS SimTech is an internationally oriented doctoral programme.
 - The GS SimTech offers its doctoral students an individual supervision by senior researchers of the University of Stuttgart and by international guests of the SRC SimTech.
 - For the advancement of interdisciplinarity, annual doctoral seminars for presentation of the project's intermediate results, and Graduate School seminars are organised.
 - For the integration of new doctoral students into the GS SimTech, a welcome event with all doctoral students takes place at least once a year.
- b) Receiving a doctorate within the SRC SimTech is only possible as a member of the GS.
- c) The *Promotionsordnung (PromO)* of the University of Stuttgart from 1 September 2011 applies to all doctoral projects within the GS SimTech.
- d) The responsible committee for decision making concerning the GS SimTech is – unless otherwise specified in the *PromO* – the Executive Board of the Excellence Cluster SimTech (cf. § 5 of the Statute of the SRC SimTech).

2. Admission to GS SimTech

- a. A doctoral student working in a SimTech project is by employment preliminary member of the GS SimTech. He/she is expected to submit the "Application form for admittance to GS SimTech" to the coordination office of the GS SimTech within the first three months after commencing work in his/her SimTech project. Only after receipt of a complete application and the authorisation by the GS SimTech, the doctoral student will be accepted as a full member of the GS SimTech. The admittance is confirmed by written statement to the doctoral student.
- b. Upon application, the GS SimTech admits also non-SimTech funded doctoral students if they work in research projects that are relevant for the SRC SimTech and if their advisor is a member of the SRC SimTech. Applications should be addressed to the coordination office of the GS SimTech. A committee, commissioned by the Board of Directors, decides on the application. The decision is confirmed by a written statement to the doctoral student.

- c. The application for admission has to include the following documents as attachment:
 1. University diploma (undergraduate and graduate) resp. Bachelor-/Master-Degree
 2. CV
 3. Outline of the dissertation project (about one page)
 4. List of publications (if available).

Moreover, doctoral student and advisor must accept these Regulations (“*Ausführungsverordnung*”, AVO) of the GS SimTech with the application for admission.

3. Advisor concept

- a. Supervision within the GS SimTech is based on the “advisor concept”, hence the main advisor of the thesis is responsible for the compliance with the AVO. The main advisor confirms the compliance with the AVO to the GS SimTech twice: with the Milestone Presentation and with the initiation of the doctoral examination procedure. A detailed proof of the doctoral students activities (e.g. passed lectures and Graduate School seminars) has not to be provided to the GS SimTech, however it is desirable for statistical purposes.
- b. Each doctoral student of the GS SimTech is supervised by at least two members of the SRC SimTech (professors or senior researchers), that have the assigned right to report according to *PromO* § 7 (3). These are
 1. the main advisor of the doctoral thesis and
 2. a co-advisor of the thesis.
- c. The advisors have to be members of the SRC SimTech from different research areas to ensure the interdisciplinary integration within the SRC SimTech.
- d. The advisors are named in the application form at the beginning of doctoral studies. On a reasoned request from the main advisor to the head of GS SimTech the co-advisor may be released from his/her duties and a new co-advisor can be appointed.

4. Phases of the training programme

The training programme of the GS SimTech includes the following phases:

Phase 1:

- Admission to doctoral studies
- Completion of lectures with an amount of 6-12 credits
- Completion of courses on key qualifications with an amount of 3 credits
- Participation in at least one Graduate School seminar
- Participation in the annual doctoral seminars (SimTech Status Seminar)
- Working on the thesis project

Phase 2:

Passing the Milestone Presentation

Phase 3:

- Further work on the thesis project and writing the dissertation
- Participation in up to two Graduate School seminars (in total, three Graduate School seminars have to be passed until the initiation of the doctoral examination procedure)
- Participation in the annual doctoral seminars (SimTech Status Seminars)
- Stay abroad

5. Elements of the training programme

- a) In terms of a structured introduction to the thesis topic, the doctoral student participates in appropriate lectures with an amount of 6 to 12 credit points in total and he/she takes an exam on these lectures. The lectures can be specially offered by the GS SimTech, however, it is also possible to choose regular courses from the calendar of the University of Stuttgart or appropriate courses from outside the University of Stuttgart (courses from other universities, appropriate summer schools, etc.). The selection of lectures is done by the advisor in agreement with the doctoral student and the co-advisor (advisor concept). The lectures with the corresponding exams need to be passed until the Milestone Presentation.
- b) To advance key qualifications, the doctoral students take part in courses with an amount of 3 credit points. The selection of courses is done by the advisor in agreement with the doctoral student and the co-advisor (advisor concept).
- c) To advance interdisciplinary networking within the group of the doctoral students and to broaden their scientific horizon, the doctoral students of the GS SimTech have to take an active part in three Graduate School seminars. At least one of the seminars has to be passed until the Milestone Presentation. The remaining Graduate School seminars have to be completed by the initiation of the doctoral examination procedure. The official list of Graduate School seminars can be found on our webpage. From this list, the advisor selects the individually appropriate seminars in agreement with the doctoral student and the co-advisor (advisor concept). As a rule, no credit points according to a) are awarded for the participation in Graduate School seminars. In well-reasoned cases, the advisor can agree to the granting of credits.
- d) The doctoral students present the intermediate results of their work (poster every year, talk on request) on the annual doctoral seminars (which can take place together with the annual status seminar). Participation in the doctoral seminars is mandatory.

6. Time schedule

Doctoral studies should not exceed a time period of four years, starting with the admission to the GS SimTech and ending with the successful graduation. The first phase of doctoral studies, ending in the Milestone Presentation, should be completed after 1.5 years.

7. Application for Admission as a Doctoral Student

- a) The doctoral student has to fulfill the requirements for the admission as a doctoral student that are regulated by *PromO* § 3 of the University of Stuttgart. In special cases, these requirements can be completed during the qualification phase in the GS SimTech.
- b) The membership in the GS SimTech does not deduce a legal claim for the admission as a doctoral student. The admission only depends on the regulations of *PromO* § 4.
- c) The doctoral student applies for the admission as a doctoral student at the Examination Office ("*Prüfungsamt*") preferably at the beginning of his/her doctoral studies, but no later than the Milestone Presentation.
- d) If the admission as a doctoral student fails in accordance with *PromO* § 4 or if the Milestone Presentation fails finally according to No. 8, the doctoral student will be excluded from the GS SimTech.

8. Milestone Presentation

- a) In the Milestone Presentation, the doctoral student has to demonstrate his/her in-depth knowledge in the research field and convincingly present his/her intermediate results as well as the work programme for the thesis.
- b) By means of the Milestone Presentation, the required progress concerning the work on the dissertation topic is monitored and – in case of problems – early corrective actions are applied. Furthermore, the Milestone Presentation ought to encourage the doctoral student to reflect their own progress and the future course.
- c) Not later than two weeks before the Milestone Presentation, the doctoral student must submit his/her Milestone Report to both of his/her advisors and to the GS SimTech.
- d) The coordination of GS SimTech initiates the publication of the Milestone Report on the SimTech website: Publication on the internal pages is mandatory, publication on the public website is desirable but not compulsory. It is possible to publish a shorted version of the Milestone Report on the public website.
- e) The advisor confirms the compliance with the AVO to the GS SimTech: the completion of the lectures with an amount of 6-12 credits, the completion of courses on key qualifications with an amount of 3 credits, the completion of at least one Graduate School seminar, and the participation in the annual doctoral seminar(s).
- f) The Milestone Presentation consists of the following elements:
 - i. 10-page written summary of the intermediate results and the future work programme (Milestone Report)
 - ii. Public presentation (30 minutes)
 - iii. Non-public oral examination (60 minutes) of the doctoral student by both advisors (main advisor and co-advisor). Furthermore, the chairperson of the Doctorate Committee of the SRC SimTech is entitled to participate in the examination interview.
- g) The advisors decide upon the result and select from the following categories:
 - i. Passed (without conditions)
 - ii. Passed with conditions
Conditions can be imposed on the doctoral student. He/she has to prove to the main advisor that he/she meets the conditions. A new Milestone Presentation will not take place.
 - iii. Failed
A failed Milestone Presentation can be repeated once within the period of three months. If the second attempt fails too, the doctoral student will be excluded from the GS SimTech.
- h) The Milestone Presentation may be taken in German or English.
- i) The main advisor writes a protocol on the Milestone Presentation, in which the topic of the talk, date, place and time of the oral examination, participants of the examination and the result are recorded. The protocol is signed by the advisor and forwarded to GS SimTech.

9. Stay Abroad

- a) A stay abroad of three months is obligatory for the doctoral students of the GS SimTech. The main advisor confirms the stay abroad of his/her doctoral student to the GS SimTech with the initiation of the doctoral examination procedure.

- b) It may be advisable, that the stay abroad will be with a potential external examiner; this however is not compulsory. Time, duration, location etc. of the stay abroad is determined by the advisors in agreement with the doctoral student (advisor concept). During the runtime of the Cluster of Excellence EXC 310 financial support for the stay abroad is provided.

10. Examination Committee

- a) According to *PromO* §7 (2), the Examination Committee is appointed by the Doctorate Committee. The Examination Committee is composed of the main examiner (normally the main advisor) and one or two co-examiners. At least one of the co-examiners must be external, i.e. he/she has to be affiliated to a university or research institute outside the University of Stuttgart. According to *PromO* § 7 (3), external examiners can only be professors, assistant professors or associate professors from another university, from where they have the assigned right to report. The external examiner(s) are appointed by the Doctorate Committee.
- b) If the main examiner is an assistant professor (*Juniorprofessor*), one of the co-examiners must be professor in the SRC SimTech or in the involved faculty.

11. Submission of work

According to *PromO* § 6 (1) the doctoral student submits his/her thesis to the chairman of the Doctorate Committee of the SRC SimTech (N copies according to faculty rules + 1 copy for SimTech). In addition to the submission, the main advisor confirms the compliance with GS regulations to the chairman of the Doctorate Committee by a written statement.

12. Examination of the thesis

- a) According to *PromO* § 10 the submitted thesis will be examined. Thesis and reports are accessible for members of the Doctorate Committee (*PromO* § 10 (2), (3)).
- b) As soon as the examination and inspection of thesis and reports are finished, the Examination Committee decides on the continuation of the doctoral examination procedure.

13. Oral examination

- a) The oral examination should take place within three months, but not later than six months after submission of the thesis. The oral examination may be accomplished in German or English.
- b) The oral examination is taken according to the guidelines of the faculty. If no talk on the thesis is scheduled in the faculty rules, a presentation of 30 minutes which is open to all members of the University of Stuttgart must be additionally performed before the oral examination.

14. Publication of the thesis

- a) The publication of the doctoral thesis is carried out in accordance with *PromO* § 13.
- b) In addition to the required number of copies according to the *PromO*, the doctoral student submits a printed copy as well as an electronic version (PDF) of the thesis to GS SimTech.