Bernstein Center for Computational Neuroscience Berlin

## Summary of PhD Program Regulations

The Bernstein Center for Computational Neuroscience Berlin (BCCN Berlin) offers a structured Doctoral Program/PhD Program. Fellows are expected to fulfill the requirements of supervision and training:

## 1. Supervision

1.1. Research projects are supervised by at least two faculty members (three faculty members for PhD Charité fellows) with complementary expertise.

1.2. Within the first three months, each student has to define her or his research project together with her or his supervisors and has to formulate a written research proposal which consists of an overview of the state-of-the-art, a section specifying the goal of the project, and an implementation and work plan.

1.3. After three to six months, the project proposal must be defended in front of a PhD committee which includes all supervisors and at least one additional PI of the PhD Program or external advisory members. The PhD committee decides on the final acceptance and gives advice to the student if necessary.

1.4. In order to monitor progress and to provide advice, there will be a formal presentation (progress report) in the second, and in the third year in front of the PhD committee, on these occasions the student will submit a written report.

1.5. The PhD committee will give feedback to the student and report the results of the progress report meeting in a written protocol which has to be deposited at the PhD Program's coordination office.

1.6. The above mentioned and additional supervision measures are defined in a supervision agreement to be signed by both the student and the principal supervisor.

## 2. Training

Earning of **25 ECTS**[1] (**30 ECTS** for PhD Charité fellows) credit points of course work including

- **15 ECTS** (**20 ECTS** for PhD Charité fellows) **for advanced scientific courses** including the compulsory attendance in the GRK Lecture Series "Computational Neuroscience and Machine Learning".
- **10 ECTS for general skills** (also called "soft skills") essential for successful scientific work

For **Advanced Scientific Courses** can be taken:

- the compulsory PhD lecture "Computational Neuroscience"
- courses of the International Master Program Computational Neuroscience (if students have graduated from other programs)
- courses offered by the Berlin Universities
- international summer schools and method courses
- short term project and lab rotations with the GRK project leaders or in external labs

**Soft skill courses** may include but are not restricted to:

- scientific writing, presentation techniques, and grant writing,
- didactics and tutoring,
- ethics and scientific conduct,
- science management,
- legal aspects and impact of research on society.
- practicals such as poster or oral presentations at international conferences, or teaching activities. (Note: such practicals must be combined with a specific training, e.g. respectively a workshop on presentation skills or a course on didactics for the aforementioned examples).

[1] 1 ECTS equals 25-30 hours of total workload including preparation, homework and self-study

Students are also required to:

- organize and attend a **PhD symposium** where each student reports on her / his work in front of the fellow students once a year.
- organize an **interdisciplinary training grant colloquium** with outside speakers
- organize a **journal club**, where students will read and discuss key publications of the invited speakers before the respective colloquium talk.

**The following table provides an overview of the requirements of the training program.**

| COURSE / EVENT | ECTS | C/CE | FREQUENCY | CONTENT |
|---|---|---|---|---|
| **Advanced Scientific Courses (15/20 ETCS)** | | | | |
| **PhD Lecture "Computational Neuroscience"** | 2 | **C** | **once during the PhD, total duration of 2-3 semesters, bi-weekly frequency** | **Lecture series on new theoretical and experimental methods related to computational neuroscience.** |
| **Advanced scientific courses** | variable | CE | depending on the provider | Regular courses from university programs, method's courses, summer schools. |
| **Lab rotations** | variable | E | on demand | Individual lab rotation with one of the PIs or junior researchers for the purpose of learning a particular computational or experimental technique. |
| **General Skills (10 ECTS)** | | | | |
| **Soft skill courses** | variable | CE | at least one course / year offered by the BCCN PhD program | Topics include: scientific writing and presentations, ethics and scientific conduct, science management. |
| **Practicals** | 1-2 ECTS per practical | CE | credit will be provided only once for each kind | Topics include: oral or poster presentations, teaching practicals (tutorials)- needs to be combined with a training course before (presenting) |
| **Courses on ethics, legal issues, implications for society** | variable | CE | variable, courses may be offered jointly with the MSc Program CNS | Topics include: ethics and scientific conduct, legal aspects and implications of research for society. |
| **PhD Symposium** | **2** | **C** | **each student has to present his/her work once a year** | **Presentations by PhD students for PhD students about current status of project work.** |
| **Good Scientific Practice Workshop** | **1.5** | **C** | **each student has to take part in 1.5-day workshop on GSP organized by QUEST at start of PhD** | **Workshop topics include: Open Data, Open Access, Reliability in Experimental Design & Analysis, Integrity, etc. Consists of presentations from students and coaches** |
| **Winter School "Ethics of Neuroscience and AI" session on Good Scientific Practice** | **0.5** | **C** | **3-hour session during Winter School which must be attended at least once** | **Prof. Ulrich Dirnagl from the QUEST centre introduces Good Scientific Practice, topics depend on student interests** |
| **Additional training measures (not for credit)** | | | | |
| **PhD Program invited Lecture Series (Colloquium)** | - | **C** | **Several times a year or as a research symposium** | **Research talks by invited, internationally renowned scientists.** |
| **PhD Journal Club** | - | **C** | **before the invited lecture series talks** | **Journal club with topics related to the research area of the outside speakers.** |