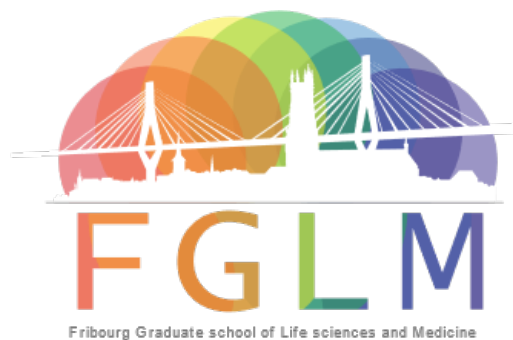


# *Information Package*

## *The Fribourg Graduate School of Life Sciences & Medicine (FGLM)*



# The Fribourg Graduate School of Life Sciences & Medicine

## What is it?

**The FGLM (formerly the FGLS) is an interdisciplinary graduate school in life science, which offers - on a voluntary basis - a coordinated doctoral training program open to all UniFR doctoral students in biology and medicine and beyond who work in the area of life sciences.**

- It addresses all doctoral students in the field of life science (including biology and medicine, biochemistry, bioinformatics, but also doctoral students in chemistry, physics, statistics and mathematics with a life science focus).
- The aim of the FGLM is to complement the regular training of PhD / MD students in the life sciences at UniFR by fostering and offering continuing education opportunities on a participatory basis.
- Doctoral students who are FGLM members have the unique opportunity to self-organize activities such as workshops, seminars, courses, social events, retreats, etc., with administrative help from the DepBL and with an annual operating budget.
- Another major goal of the FGLM is to offer doctoral students an attractive course program, where they can follow various scientific and soft-skills courses.
- A third part of the FGLM is a formalized system of regular thesis committee meetings.
- UniFR is currently financing the FGLM with an annual budget of 11,000 CHF.
- The FGLM also collaborates with academic partners: (i) the Graduate Program Cell Migration, a partnership between the Universities of Fribourg, Bern, Southern Switzerland and Geneva, and (ii) the Spemann Graduate School of Biology and Medicine, Albert-Ludwigs-University, Freiburg im Breisgau.
- Membership in the FGLM is not compulsory for you to get your PhD - but we strongly encourage you to become a member. Membership is open to all PhD/MD students performing research in the life sciences at UniFR.
- If you would like to become a member please check out the downloadable documents (especially the bylaws) on the right and please send an e-mail to the FGLM administrator, Rachel Sauge at the DepBL ([rachel.sauge@unifr.ch](mailto:rachel.sauge@unifr.ch)).
- The current heads of the FGLM are Jens Stein (Medicine, [jens.stein@unifr.ch](mailto:jens.stein@unifr.ch)) and Jörn Dengjel (Biology, [joern.dengjel@unifr.ch](mailto:joern.dengjel@unifr.ch)).
- The current FGLM PhD student representatives coordinate the FGLM activities on behalf of their fellow doctoral students.

# ***FGLM Bylaws***

## **Bylaws of the Fribourg Graduate School of Life Sciences & Medicine (FGLM)**

**Art. 1.** This document states the purpose, organization, tasks, responsibilities and the course offerings of the *Fribourg Graduate School of Life Sciences and Medicine* (FGLM), a joint initiative of researchers in Biology and Medicine at the University of Fribourg (UniFR), Switzerland.

**Art. 2. Purpose.** The FGLM is an interdisciplinary graduate school, which offers, on a voluntary and participatory basis, a coordinated doctoral program in life sciences at the University of Fribourg. It addresses all doctoral students in the field of life science (including biology, medicine, biochemistry, bioinformatics, but also doctoral students in chemistry, physics, statistics and mathematics with a life science focus). The aim of the FGLM is to complement the regular training of PhD / MD students in the life sciences at UniFR by fostering and offering continuing education opportunities on a voluntary basis; it aims to prepare the next generation of life scientists for future challenges in academia and society. It is open to all PhD/MD students performing research in the life sciences at UniFR.

The Faculty of Sciences at UniFR offers the following degrees related to life sciences / biology:

- PhD in Biology
- PhD in Biochemistry
- PhD in Bioinformatics
- PhD in Medicine
- MD in Medicine

The participation of PhD/MD students in the FGLM (i) requires the formal approval of the official thesis supervisor and (ii) is elective/ optional, *i.e.* participation in the FGLM is not compulsory and not formally required for obtaining a PhD or MD degree.

PhD/MD students (and their supervisors) who do wish to voluntarily enroll in the FGLM program agree to abide by the FGLM bylaws defined here; both the student and the supervisor sign an agreement to that effect. PhD/MD students and their supervisors can leave the FGLM at any point if both wish to do so.

The requirements for continuing education of PhD/MD students are specified in Article 13 of the “Regulation for the award of the doctorate at the Faculty of Science & Medicine” (<https://www3.unifr.ch/apps/legal/fr/document/927509>) and in Article 12 of the “Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine” (<https://www3.unifr.ch/apps/legal/de/document/916986>). These articles state that the official thesis supervisors have the right to decide on the details of the continuing training of their PhD/MD students; by signing the above-mentioned agreement the supervisors agree to the continuing education / training program offered by the FGLM.

**Art. 3. Organization.** The members of FGLM consist of three groups: (1) principal investigators (PIs) who are PhD/MD supervisors; (2) doctoral students; and (3) the FGLM committee (see below).

PIs are researchers in the life sciences at UniFR (e.g., in biology, medicine) and include full and assistant professors, SNF / ERC professors, and senior lecturer/researchers (*i.e.*, maître-assistants [MA] and maîtres d'enseignement et de recherche [MER]) who finance PhD/MD positions. All PIs commit themselves to the activities and regulations of FGLM (see Article 2 above).

FGLM doctoral students are all PhD/MD students in the life sciences at UniFR (e.g., in biology, medicine) who have signed up, with the consent of their supervisors, for participating in the FGLM.

The FGLM committee consists of the co-heads (co-directors) of the FGLM (e.g., typically 1 from biology and 1 from medicine), the academic coordinator and 2-4 FGLM doctoral students. The FGLM committee meets regularly to plan and organize the school's activities. The co-heads of the FGLM and the coordinator are responsible for overseeing the organization, budget and activities of the FGLM; the co-heads and the coordinator also organize the FGLM general assembly (see below). The PhD student committee members are responsible for planning and organizing the annual FGLM activities. The co-heads of the FGLM typically change every 2 years or so; the current co-heads of the FGLM are responsible for finding their successors. The FGLM doctoral students who serve on the committee are elected or re-elected at the General Assembly.

The FGLM is financially supported by its member departments and by the doctoral program funding scheme provided by UniFR; the FGLM administration is performed and supported by the member departments under the directorship of the co-heads of the FGLM.

The FGLM holds an annual general assembly, typically in October or November, or at the beginning of the new year. During the general assembly the FGLM student representatives are elected or re-elected (see above).

The FGLM is also associated with academic partner programs at the Universities of Bern, Southern Switzerland and Geneva.

#### **Art. 4. Responsibilities and tasks.**

The FGLM offers an interdisciplinary program of continuing education activities; the FGLM administrative office keeps records of each doctoral student's required participation in FGLM training activities; at the end of the doctoral studies the two co-heads of the FGLM confirm that the doctoral student has successfully completed the voluntary FGLM training program.

The FGLM cannot and does not formally attest / accredit ECTS credits for any of the courses taken by the doctoral students.

PIs as well as the doctoral students themselves are responsible for ensuring adherence to the rules of FGLM and to fulfill the responsibilities and tasks defined here.

All FGLM doctoral students are enrolled at UniFR as doctoral students according to the university regulations. By co-signing the agreement with their supervisor mentioned in Article 2 the FGLM doctoral students commit themselves to following the continuing training program offered by the FGLM and to complete the required course work. It is the students' duty to provide course attestations and signatures that certify her/his successful participation in postgraduate courses, congresses, practical courses, and seminars. When the signature of an organizer cannot attest the student's participation in these events, the PhD supervisor can sign instead.

The FGLM requires that the doctoral students, together with their supervisors, establish a thesis committee during the first year of their studies. The establishment of the committee has to be done in compliance with the rules for supervision of PhD/MD students and thesis committees, specified in Articles 9 and 12 of the "Regulation for the award of the doctorate at the Faculty of Science & Medicine" (<https://www3.unifr.ch/apps/legal/fr/document/927509>) and in Articles 9 and 11 of the "Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine" (<https://www3.unifr.ch/apps/legal/de/document/916986>). For PhD students in science or medicine, the supervisor can request, according to Article 12 mentioned above, the installation of a PhD thesis committee until the end of the 1<sup>st</sup> year of the PhD studies. For MD students, following Article 11 mentioned above, the installation of a thesis committee requires the approval of the permanent Medical Doctorate Commission specified in Article 11.

The doctoral fellow, in agreement with her/his supervisor, has to choose 2 experts / thesis committee members (PIs) in addition to the supervisor and communicates the composition of the committee to the FGLM administrative office. At least one of the two experts should be an external (non-UniFR) expert. The committee supports and advises the doctoral student as well as the PhD advisor in all aspects of the thesis work. The composition of the thesis committee can be changed if the members of the committee agree. The supervisor and the experts form the thesis committee of the respective FGLM doctoral student.

Optimally in each year during the thesis work (but at least 2-3 times during the duration of the thesis work), the doctoral student has to submit a written progress report and give an oral presentation to the members of the thesis committee. The first meeting should preferentially be held at the end of the first year to allow sufficient progress of the project. The written report (typically 3-4 pages) should be sent at least 1 week before the meeting to the committee members. After the meeting, a copy of this report (together with the committee meeting form) is to be given to the FGLM administrative office. The exact length and format of the report should be decided by the thesis supervisor. If a physical meeting cannot be arranged, the meeting can be held via teleconference or using a hybrid model. The experts will provide feedback to both the thesis supervisor and the doctoral fellow concerning any scientific or personal questions related to the thesis work. The costs for organizing these meetings (travel, hotel, meals for the committee members) are carried by the thesis supervisor.

The final PhD/MD thesis exam committee which examines the PhD/MD candidate at the end of the thesis can - but must not necessarily - be different from the above-mentioned committee; the composition of this exam committee must be approved by the Faculty: see Article 17 ("Regulation for the award of the doctorate at the Faculty of Science & Medicine") and Article 16 of the "Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine".

#### **Art. 6. Continuing training offer.**

The FGLM offers to its member doctoral students a voluntary program of continuing training and course activities. By signing, together with their supervisor, the agreement mentioned in Article 2 they voluntarily agree to follow the FGLM training program. The program consists of the following (also see separate document with the course & training offer):

(1) Each year, FGLM doctoral students commit themselves to attending courses covering at least 2 ECTS per year. Courses should be divided between scientific/methodological courses and "soft skills" courses. The FGLM doctoral students are encouraged to take the course exams but they are not obliged to do so; if they do take the exam, they need to be officially enrolled for the exams and pay the exam fees. The FGLM does not formally accredit ECTS points.

(2) In addition, FGLM doctoral students must have followed during the duration of their thesis work at least three courses, conferences, or symposia designed specifically for postgraduate studies. Such courses are offered, among others, by the following societies and doctoral schools:

- FEBS: <http://www.febs.org/index.php?id=86>;
- EMBO: <http://www.embo.org/events/calendar.html>
- LS2 (Life Sciences Switzerland): <http://www.usgeb.ch>
- SGM/SSM: <http://www.swissmicrobiology.ch>
- StarOmics (CUSO, doctoral school): <http://biologie.cuso.ch/accueil/>
- Microbiology (CUSO, doctoral school): <http://biologie.cuso.ch/accueil/>
- Swiss Chronobiology Meeting: <http://www.unifr.ch/biology/events/chrono4/>
- Doctoral Program in Ecology & Evolution (CUSO): <http://biologie.cuso.ch/ecologie-evolution/welcome/>
- Interuniversity Doctoral Program in Organismal Biology: <http://www2.unine.ch/dp-biol>

(3) FGLM doctoral students are also expected to have participated in and presented a poster or talk at least one international congress. Participation in any of the above mentioned events should be discussed beforehand with, and approved by the PhD supervisor, who has to judge if a given scientific conference or course will be appropriate for the training of the doctoral student. FGLM doctoral students should try to participate in congresses also beyond the required minimum, especially if they take place in Switzerland, if the supervisor agrees with this.

(4) If a doctoral student wishes to participate in another specialized education program or doctoral school of CUSO, she/he can ask for these courses to be counted towards the FGLM training offer / curriculum. Participation in any specialized education program or doctoral school requires the consent of the PhD supervisor.

(5) The regular and active participation in progress reports, journal clubs, conferences and seminars organized, e.g. by the Departments of Biology or Medicine at UniFR, form an integral part of the education of FGLM doctoral students (see recommended course schedule).

(6) To support cross-disciplinary approaches, the FGLM encourages doctoral students to undertake short-term laboratory rotations, in which interested PhD students have the opportunity to carry out up to two rotations in another laboratory associated with the FGLM.



- (7) FGLM doctoral students commit themselves to actively participating in student-organized FGLM activities (e.g., the FGLM retreat, etc.).
- (8) To facilitate the training, FGLM doctoral students are expected to prepare a career development plan (see respective FGLM document), preferably within the first 6-12 months of their PhD studies. Students must review and, if necessary, revise the plan regularly (e.g. every year). All versions of the career development plan should be sent to the FGLM office.
- (9) The successful completion or the non-completion of the FGLM training offer does not affect in any way the PhD/MD thesis submission and examination; the fulfillment of the FGLM curriculum does not represent a formal obligation or pre-requisite for being admitted to the PhD/MD thesis exam/defense.

For FGLM doctoral students who perform thesis work at another university or research institution in cooperation with FGLM, it is the duty of the PhD supervisor to define an equivalent training program and to make sure that the requirements are equivalent to the ones of the FGLM and the University of Fribourg.

At the end of the thesis work the student submits documentation of the completed coursework to the FGLM administrative office; the two co-heads of the FGLM then issue a postgraduate study report which confirms that the required FGLM coursework has been completed. This document represents simply a confirmation; it does not formally accredit coursework or ECTS points and it does not represent a formal certificate or diploma.

Exemptions from and modifications of the above rules are decided by the FGLM committee.

Fribourg, 04 October 2024

- Prof. Jörn Dengjel, DepBL, UniFR
- Prof. Jens Stein, Department of Oncology, Microbiology and Immunology, UniFR
- Prof. Patricia Boya, Department of Neuro- and Movement Sciences, UniFR
- Dr. Jun Abe, Department of Oncology, Microbiology and Immunology, UniFR

# *FGLM Training Offer*

# **Continuing Training Offer of the Fribourg Graduate School of Life Sciences and Medicine (FGLM) University of Fribourg**

## **1. The FGLM - An Overview**

The Fribourg Graduate School of Life Sciences and Medicine (FGLM) is an interdisciplinary graduate school in life science, which offers - on a voluntary and participatory basis - a coordinated doctoral program in life sciences at the University of Fribourg. It addresses all doctoral students in the life sciences (including biology, medicine, biochemistry, bioinformatics, but also doctoral students in chemistry, physics, statistics and mathematics with a life science focus). The aim of the FGLM is to complement the regular training of PhD / MD students in the life sciences by fostering and offering continuing education opportunities on a voluntary basis; it aims to prepare the next generation of life scientists for future challenges in academia and society. It is open to all PhD/MD students performing research in the life sciences at UniFR.

The Faculty of Sciences at UniFR offers the following degrees related to life sciences / biology:

- PhD in Biology
- PhD in Biochemistry
- PhD in Bioinformatics
- PhD in Medicine
- MD in Medicine

The FGLM offers to its member doctoral students a voluntary program of continuing training and course activities. By signing, together with their supervisor, the agreement mentioned in Article 2 of the FGLM bylaws they voluntarily agree to follow the FGLM training program.

The program consists of the following:

(1) Each year, FGLM doctoral students commit themselves voluntarily to attending courses covering at least 2 ECTS per year (see below). Courses should be divided between scientific / methodological courses and “soft skills” courses (see below for an overview of courses). The FGLM doctoral students are encouraged to take the course exams but they are not obliged to do so; if they do take the exam, they need to be enrolled for the exams and pay the exam fees. The FGLM does not formally accredit ECTS points.

(2) In addition, FGLM doctoral students must have followed during the duration of their thesis work at least three courses, conferences, or symposia designed specifically for postgraduate studies. Such courses are offered, among others, by the following societies and doctoral schools:

- FEBS: <http://www.febs.org/index.php?id=86>;
- EMBO: <http://www.embo.org/events/calendar.html>
- LS2 (Life Sciences Switzerland): <http://www.usgeb.ch>
- SGM/SSM: <http://www.swissmicrobiology.ch>
- StarOmics (CUSO, doctoral school): <http://biologie.cuso.ch/accueil/>
- Microbiology (CUSO, doctoral school): <http://biologie.cuso.ch/accueil/>
- Swiss Chronobiology Meeting: <http://www.unifr.ch/biology/events/chrono4/>
- Doctoral School Ecology & Evolution (CUSO): <http://biologie.cuso.ch/ecologie-evolution/welcome/>
- Interuniversity Doctoral Program in Organismal Biology: <http://www2.unine.ch/dp-biol>

(3) FGLM doctoral students are also expected to have participated in and presented a poster or talk at least one international congress. Participation in any of the above mentioned events should be discussed beforehand with, and approved by the PhD supervisor, who has to judge if a given scientific conference or course will be appropriate for the training of the doctoral student. FGLM doctoral students should try to participate in congresses also beyond the required minimum, especially if they take place in Switzerland, if the supervisor agrees with this.

(4) If a doctoral student wishes to participate in another specialized education program or doctoral school of CUSO, she/he can ask for accreditation of these courses. Participation in any specialized education program or doctoral school requires the consent of the PhD supervisor.

(5) The regular and active participation in progress reports, journal clubs, conferences and seminars organized by the Departments of Biology or Medicine form an integral part of the education of FGLM doctoral students (see recommended course schedule).

(6) To support cross-disciplinary approaches, the FGLM encourages doctoral students to undertake short-term laboratory rotations, in which interested PhD students have the opportunity to carry out up to two rotations in another laboratory associated with the FGLM.

(7) FGLM doctoral students commit themselves to actively participating in student-organized FGLM activities (e.g., the FGLM retreat, etc.).

(8) A training plan should be summarized as a career development plan using the form available on the FGLM website.

For FGLM doctoral students who perform their thesis work at another university or research institution in cooperation with FGLM, it is the duty of the PhD supervisor to define an equivalent training program and to make sure that the requirements are equivalent to the ones of the FGLM and the University of Fribourg.

At the end of the thesis work the student submits documentation of the completed coursework to the FGLM administrative office; the head of the FGLM then issues a signed postgraduate study report which confirms that the required FGLM coursework has been completed. This document represents simply a confirmation; it does not formally accredit coursework or ECTS points and it does not represent a formal certificate or diploma.

**Contacts:**

- FGLM administrative office: Rachel Sauge ([rachel.sauge@unifr.ch](mailto:rachel.sauge@unifr.ch)): Office:DepBL, building PER 04, room number 0.108, Rue A.-Gockel 3. Tel.: +41 26 300 8810
- Co-heads of the FGLM: Prof. Jörn Dengjel ([joern.dengjel@unifr.ch](mailto:joern.dengjel@unifr.ch)), DepBL; Prof. Jens Stein ([jens.stein@unifr.ch](mailto:jens.stein@unifr.ch)), Section Medicine, OMI; Prof. Patricia Boya ([patricia.boya@unifr.ch](mailto:patricia.boya@unifr.ch)), Section Medicine, NMS
- FGLM coordinator: Jun Abe ([jun.abe@unifr.ch](mailto:jun.abe@unifr.ch)); Section Medicine

## 2. Requirements for completion of the FGLM curriculum

Also see the detailed regulations in the FGLM bylaws; also see the list of courses below. All successfully completed courses have to be recorded on the FGLM record sheet.

At the end of their doctoral studies, students must have taken at least:

- 6 ECTS of courses (e.g. modules A.1 and A.2, see below), to be taken over three years
- 2 ECTS of soft skills (e.g. organizing meetings, mentoring of Master and Bachelor students, Soft Skills CUSO courses). Typically,
  - ✓ 1 ECTS for mentoring one Master student (1 year)
  - ✓ 1 ECTS for mentoring two BSc students (3 months each), or rotation students (6 weeks each)
  - ✓ 0.5 ECTS / 4 hours per week / one semester for assisting BSc and MSc students and preparing workshops (“travaux pratiques”)
- 3 conferences and/or workshops (e.g. module B.2, see below)
- Seminars and meetings held in Fribourg (module B.1, see below)

The completed FGLM record sheets and thesis committee meeting reports are kept centrally by the FGLM administrative office (currently at the DepBL: Rachel Sauge, [rachel.sauge@unifr.ch](mailto:rachel.sauge@unifr.ch)).

PhD students are responsible for updating and managing these documents and for submitting them to the administrative office in a timely fashion.

The completed record sheet has to be verified and signed by the PhD student, the PhD supervisor and handed over to the FGLM secretary.

The completed FGLM record sheet is signed by the head of the FGLM and will be given to the student after the successful PhD defence as a confirmation of the successfully completed FGLM curriculum. This attestation by the FGLM does not represent a formal accreditation of ECTS.

## 3. Recommended course schedule

### Throughout the PhD:

- Literature study: e.g., SBL.00404, SBL.00326; SBL.00402, SBC.07111 (typically involving at least 1 presentation every 2 years)
- Progress reports: e.g., SBL.00403, SBL.00326, SBL.00212, SBC.07111 (typically involving 1 presentation per year)
- Laboratory group meetings: e.g., SBL.00401, SBC.04402, SBL.00401, SBC.07111 (presentations according to the research group)
- Seminars: e.g., SBL.00400

### 1<sup>st</sup> year of PhD:

- 2 ECTS from UniFR or other programs in Switzerland

### 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> year of PhD:

- 3 courses / symposia from national and/or international programs
- 4 ECTS from UniFR or external courses
- 2 ECTS of soft skills

## **4. Continued training offer proposed to PhD students in the FGLM program**

Below are examples of courses that can be taken by FGLM students; other courses may be eligible, especially from the Masters programs in biology and/or medicine.

See here: <https://www.unifr.ch/bio/en/studies/master/> and <https://www3.unifr.ch/med/de/section/platforms/>.

		Semester	Hours	ECTS
<b>Module A.1 Topical courses</b>				
(Themes remain, but contents can change year after year)				
SBL.00411	Signalling and transport	AS	8	1
SBL.00412	Introduction to protein structure and function	AS	8	1
SBL.10006	Developmental biology of marine animal models <i>Biennial: Alternates with SBL. 10008</i>	AS	8	1
SBL.10008	Omics approaches in marine sciences <i>Biennial: Alternates with SBL. 10006</i>	AS	8	1
SBL.00414	Cell fate and tissue regeneration	AS	8	1
SBL.00415	Cell proliferation	SS	8	1
SBL.00416	Biological Rhythms	SS	8	1
SBL.00417	Evolution on the bench	SS	8	1
SBL.00418	Microbial metabolism and genetics	SS	8	1
SBL.00419	Advanced imaging	SS	8	1
SBL.00421	Oceanography and marine ecosystems <i>Biennial: Alternates with SBL. 10007</i>	SS	8	1
SBL.10007	Polar biology <i>Biennial: Alternates with SBL.00421</i>	SS	8	1
SBL.10010	Altered carbohydrate metabolism in disease	SS	8	1

Other courses from Fribourg, Bern or Freiburg PhD programs, or other Universities and programs.

**Module A.2** Elective courses from UniFR Master programmes  
(cannot be taken if credited during the MSc)

		Semester	Hours	ECTS
SBC.07104	Introduction to protein structure and protein homology modelling #	SS	14	1.5
SBC.07105	Introduction to docking of small molecules to large macromolecules and molecular graphics #	SS	14	1.5
SBL.30001	Introduction to R	AS	3 days	2
SBC.07109	Programming with R	AS	2 days	1
SBC.07110	Introduction to UNIX and BASH	AS	5 days	2.5
SBL.20003	Methods in plant pathogen interactions	AS	50	4
SBL.00420	Career profiling in life sciences	SS	8	1
SBL.20035	Structure and functions of host-associated microbiota	SS	28	3
SBL.00425	Metagenomic data analysis	SS	14	1
SBL.00427	Visual communication of data	AS	8	1
SBL.00428	Optogenetics and photopharmacology	SS	8	1
SBL.00429	Animal models of regeneration	SS	20	2
SBL.00451	Introduction to mass spectrometry and proteomics §	AS	8	1
SBL.00452	Advanced quantitative proteomics (including practical course)	SS	12	1
SBL.00453	Protein homeostasis: translation, quality control and degradation	AS	12	1
SBL.00125	Light and fluorescence microscopy for Life Sciences	AS	28	3
SBL.20001	Biostatistics I - generalized linear models and mixed effects models	AS	28	3
SBL.20002	Biostatistics II - multivariate analysis	AS	28	3
SBL.10001	Modelling human disease in experimental genetic systems	SS	20	2
SBL.10002	From bench to bedside	SS	5	0.5
SBL.10003	Health-related topics in developmental biology	SS	20	2
SBL.10004	Ethics in stem cell research	SS	8	1
SBL.10011	Structure, function and diseases of lipid metabolism	SS	8	1
UNIL	Introductory course in laboratory animal science	SS	5 days	3

Other courses from Fribourg, Bern or Freiburg PhD programs, or other Universities and programs.

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AS Fall semester; SS Spring semester; #Must be taken together; §Prerequisite for SBL.00452



**Module B.1: Seminars and meetings in Fribourg (examples)**

		<b>Semester</b>	<b>Hours</b>	<b>ECTS</b>
SBL.10103	Research group meetings	3 sem.	3 x 14	3
SBL.10105	Research seminars in molecular life and health sciences	3 sem.	3 x 14	3
SBL.20083	Research group meetings in environmental biology	3 sem.	3 x 14	3
SBL.20081	Research seminars in environmental biology	4 sem.	4x14	5
SBL.00431	Seminars in biology	4 sem.	4x10	2
SBL.20005	Critical reading	All	28	3
SBL.10100	Journal club in molecular life sciences	3 sem.	3x14	3
UNIBE	Seminar and journal club in Population genetics and Bioinformatics	SS	28	2
SBL.00127	BeFri research colloquium in cell and developmental biology I	SS	12	1.5
SBL.00128	BeFri research colloquium in cell and developmental biology II	SS	12	1.5
SBL.00129	BeFri research retreat in cell and developmental biology	SS	2 days	1
-	Chronobiology Meeting	AS	8	0.5
-	Fribourg Ecology & Evolution Days	AS	14	1
-	Peer Reviewing in Natural- and Life Sciences: From Submission to Retraction (CUSO)	SS	12	1

**Module B.2: Seminars & meetings outside Fribourg**

Basel Worm Meeting	SS	8	0.5
LS2 Meeting	SS	12	0.5
FEBS meetings	#		
EMBO courses, workshops and meetings	#		
SGM/SSM (microbiology)	#		
StarOmics (CUSO)	#		
Microbiology (CUSO)	#		
Doctoral Program in Molecular Plant Sciences (CUSO)	#		
Doctoral Program in Ecology and Evolution (CUSO)	#		
(Soft) Skills for your PhD (CUSO)	#		
Interuniversity Doctoral Program in Organismal Biology	#		
Biology XX: the annual Swiss conference on organismic biology	SS		

## 5. Description of courses

*Up-to-date courses descriptions can be found in the Biology Masters study plans and on Timetable, at the links below :*

- [https://cdn.unifr.ch/scimed/plans/current/Plan\\_MSc\\_BL\\_EnvBiol\\_en.pdf](https://cdn.unifr.ch/scimed/plans/current/Plan_MSc_BL_EnvBiol_en.pdf)
- [https://cdn.unifr.ch/scimed/plans/current/Plan\\_MSc\\_BL\\_MLHS\\_en.pdf](https://cdn.unifr.ch/scimed/plans/current/Plan_MSc_BL_MLHS_en.pdf)
- [https://cdn.unifr.ch/scimed/plans/current/Plan\\_MSc\\_BI\\_en.pdf](https://cdn.unifr.ch/scimed/plans/current/Plan_MSc_BI_en.pdf)
- <https://www.unifr.ch/timetable/>

# *FGLM Student & Supervisor Agreement Form*

## **Agreement Form for Doctoral Students and Supervisors of the Fribourg Graduate School of Life Sciences & Medicine (FGLM)**

The FGLM is an interdisciplinary graduate school, which offers, on a voluntary and participatory basis, a coordinated doctoral program in life sciences at the University of Fribourg. It addresses all doctoral students in the field of life science (including biology, medicine, biochemistry, bioinformatics, but also doctoral students in chemistry, physics, statistics and mathematics with a life science focus). The aim of the FGLM is to complement the regular training of PhD / MD students in the life sciences at UniFR by fostering and offering continuing education opportunities on a voluntary basis. It is open to all PhD/MD students performing research in the life sciences at UniFR.

The voluntary participation of PhD/MD students in the FGLM (i) requires the **formal approval of the official thesis supervisor** and (ii) is elective/ optional, *i.e.* participation in the FGLM is not compulsory and not formally required for obtaining a PhD or MD degree. **PhD/MD students (and their supervisors) who wish to voluntarily enroll in the FGLM program agree to abide by the FGLM bylaws;** PhD/MD students and their supervisors can leave the FGLM at any point if both wish to do so.

The requirements for continuing education of PhD/MD students are specified in Article 13 of the “Regulation for the award of the doctorate at the Faculty of Science & Medicine” (<https://www3.unifr.ch/apps/legal/fr/document/927509>) and in Article 12 of the “Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine” (<https://www3.unifr.ch/apps/legal/de/document/916986>). These articles state that the official thesis supervisors have the right to decide on the details of the continuing training of their PhD/MD students.

**By signing the agreement below the supervisors agree to the continuing education / training program offered by the FGLM.**

**By co-signing this agreement with their supervisor, the doctoral students commit themselves to the continuing training program offered by the FGLM and to complete the required course work (for details see the FGLM bylaws).**

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Date:

Start date of PhD/MD thesis:

Department:

Name of supervisor:

Research field:

Signature of supervisor:

Name of doctoral student:

Signature of doctoral student:

# *FGLM Thesis Committee Meeting Guidelines*

## **FGLM Guidelines for Thesis Committee Meetings**

*This document outlines how thesis committee meetings should be organized and held. For further details also see the FGLM bylaws.*

### **Establishment of the PhD thesis committee**

- The Fribourg Graduate School of Life Sciences and Medicine (FGLM) requires that the doctoral students, together with their supervisors, establish a thesis committee during the first year of their studies.
- The establishment of the committee has to be done in compliance with the rules for supervision of PhD/MD students and thesis committees, specified in Articles 9 and 12 of the "[Regulation for the award of the doctorate at the Faculty of Science & Medicine](#)" and in Articles 9 and 11 of the "[Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine](#)". For PhD students in science or medicine, the supervisor can request, according to Article 12 mentioned above, the installation of a PhD thesis committee until the end of the 1<sup>st</sup> year of the PhD studies. For MD students, following Article 11 mentioned above, the installation of a thesis committee requires the approval of the permanent Medical Doctorate Commission specified in Article 11.
- The doctoral fellow, in agreement with her/his supervisor, has to choose 2 experts / thesis committee members (PIs) in addition to the supervisor and communicates the composition of the committee to the FGLM administrative office. At least one of the two experts should be an external (non-UniFR) expert. The committee supports and advises the doctoral student as well as the PhD advisor in all aspects of the thesis work. The composition of the thesis committee can be changed if the members of the committee agree. The supervisor and the experts form the thesis committee of the respective FGLM doctoral student.

### **Annual PhD thesis committee meetings**

- Optimally in each year during the thesis work (but at least 2-3 times during the duration of the thesis work), the doctoral student has to submit a written progress report and give an oral presentation to the members of the thesis committee. If possible, the first meeting should preferentially be held at the end of the first year to allow sufficient progress of the project and to make sure that the PhD project is viable and on the right track.

- The written report (typically 3-4 pages) should be sent at least 1 week before the meeting to the committee members. After the meeting, a copy of this report (together with the committee meeting form) is to be given to the FGLM administrative office. The exact length and format of the report should be decided by the thesis supervisor.
- For the meeting, the doctoral fellow should prepare a presentation of maximally 30 min, summarizing the progress made and outlining the planned work for the next year. She/he is encouraged to specifically address experimental/scientific problems. The thesis committee members should critically evaluate the progress and especially the planned future work.
- After scientific progress and problems have been discussed, any personal matters may be addressed. For this the supervisor should leave the room to allow the doctoral fellow to speak privately to the thesis committee members; after this, the fellow should leave the room to allow the supervisor to speak privately to the thesis committee members.
- Finally, the progress and recommendations should be documented in the evaluation form, signed by all participants and returned to the FGLM office. Within the first week after the meeting, the fellow should send out a short text summarizing the feedback and suggestions (1-2 pages). If a physical meeting cannot be arranged, the meeting can be held via teleconference or using a hybrid model. The experts will provide feedback to both the thesis supervisor and the doctoral fellow concerning any scientific or personal questions related to the thesis work. The costs for organizing these meetings (travel, hotel, meals for the committee members) are carried by the thesis supervisor.

### **PhD thesis exam committee**

- The final PhD/MD thesis exam committee which examines the PhD/MD candidate at the end of the thesis can - but must not necessarily - be different from the above-mentioned committee; the composition of this exam committee must be approved by the Faculty: see Article 17 and Article 16 of the “Regulation for the award of the doctorate in medicine at the Faculty of Science & Medicine”.

***FGLM Thesis Committee  
Meeting Form***



## **FGLM Thesis Committee Meeting Protocol and Evaluation Form**

*This thesis committee meeting protocol and evaluation form has to be handed over after each (typically annual) thesis committee meeting to the secretary responsible for the FGLM administration. The form has to be completed and signed by the PhD thesis supervisor and all the thesis committee members after the meeting. With her/his signature the PhD student acknowledges having taken note of the thesis committee's evaluation and feedback.*

---

**Name of PhD student:**

**Department:**

**Project Title:**

**Thesis start date (dd/mm/yyyy):**

**Thesis committee meeting number (1,2,3, etc.) and date:**

**Thesis Committee members (plus affiliation; indicate supervisor)**

1. (supervisor)
- 2.
- 3.

---

### **Meeting protocol & evaluation**

**(1) General aspects regarding the thesis project(s), e.g.:**

- are the aims well defined?
- are the approaches adequate (technically and scientifically)?
- etc.

**(2) Current status of the project(s), e.g.:**

- do the current /planned experiments address the main questions?
- do the results obtained corroborate or refute the initial hypothesis or the current working model?
- are the planned / future experiments feasible within the timeframe?
- has the candidate shown to be able to work independently and diligently?
- etc.

**(3) Was the meeting well prepared by the student (quality of report and presentation)?  
Were the questions answered satisfactorily?**

**(4) Other comments, alternatives or suggestions, if applicable.**

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**Date:**

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**Signatures of the committee members:**

1.

2.

3.

---

The PhD student hereby acknowledges having taking note of this report:

**PhD student signature:**

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# ***FGLM Record Sheet and Attestation***

## **FGLM Record Sheet & Postgraduate Training Attestation**

*This record sheet has to be completed, signed by the doctoral student and the PhD thesis supervisor and handed over the secretary responsible for the FGLM administration at the end of the PhD studies. The two co-heads of the FGLM then confirm with their signatures that the PhD student has successfully completed the course work required by the FGLM. This document confirms that the doctoral student has completed the FGLS training program - it does not formally accredit ECTS points.*

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**Name of PhD student:**

**Department:**

**Project Title:**

**Thesis start date (dd/mm/yyyy):**

**Thesis Committee members:**

- 1.
- 2.
- 3.

---

### **Completed course work**

**1st year courses (minimally 2 ECTS):**

**2nd year courses (minimally 2 ECTS):**

**3rd year courses (minimally 2 ECTS):**

**Soft skills courses (minimally 2 ECTS):**

**Conferences and Workshops (minimally three):**

**Others:**

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**Date:**

**Signature of the PhD student:**

**Signature of the thesis supervisor:**

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The co-heads of the FGLM hereby confirm that **(name of PhD student)**

has successfully followed and completed the curriculum of the FGLM.

**Names of the 2 co-heads of the FGLM:**

**Signature 1 and date:**

**Signature 2 and date:**

# ***FGLM Career development plan***

## Fribourg Graduate School of Life Sciences and Medicine

# Career development plan

Career development plan (CDP) is a tool to help PhD students build a plan for their future career by setting clear goals and milestones to reach. In our time, career paths of PhD holders are diversifying ever more, as is also discussed frequently in scientific journals. Some are enthusiastic about pursuing their research career as a scientist or related jobs (e.g. journal editor, science communication or grant officer). On the other hand, there are many young scientists who become fascinated by other professions outside the world of science where they can take advantage of the skills they acquired during their academic training and career.

As your PhD training moves forward, it is natural that your original plan changes. Yet building the first plan at the earliest possible timing is beneficial to secure ample time to develop your skills, even if you may decide to pursue a career that is different from what you envisioned at the beginning of your PhD training. Thus, it is important to have a clear plan and review it regularly with your supervisor (and advisors). If necessary, your plan may have to be revised according to the progress and/or any changes occurred in the meantime. Without this reviewing and revising process, CDP will never be an effective tool for successful development of your career. Please be proactive in obtaining feedback on your CDP from your supervisor and other people around you.

It is worth noting that CDP is not meant to be something to evaluate you; its *raison d'être* is to make the vision of your career clearer, such that you can employ the most efficient tactics to achieve your goals.

### References

- 1) Science Careers Individual Development Plan  
[www.science.org/content/article/myidp](http://www.science.org/content/article/myidp)
- 2) Examples of transferrable skills  
[careercenter.umich.edu/article/phd-transferable-skills](http://careercenter.umich.edu/article/phd-transferable-skills)
- 3) Example of Individual Development plan  
[oge.stanford.edu/wp-content/uploads/2018/01/IDP\\_Year\\_1.pdf](http://oge.stanford.edu/wp-content/uploads/2018/01/IDP_Year_1.pdf)

\*Please contact the FGLM office if the links above do not work. We can send the file(s) by email.



Fribourg Graduate School of Life Sciences and Medicine  
**Career development plan**

Student:  
Supervisor:

1. **What is your scientific/research goal of your PhD training?**
2. **What is your current long-term plan (i.e. after successful completion of PhD training) for your career?**  
*For example: would you like to work in academia or industry, and in which country and field? What would you like to work on (job role or research questions or problems to solve).*
3. **As a PhD candidate, it is mandatory to keep gaining knowledge and skills in your research field and to develop the fundamental skills for study design, statistical analysis, project management, critical reading of scientific literature and professional communication of your research. What are additional knowledge and skills that you would like to gain during your PhD training? Consider the needs for both implementation of your PhD project and long-term career development.**
  - ☐Teaching (to younger students)   ☐Science communication to non-scientific audience   ☐Languages
  - ☐Conventional biochemical techniques (e.g. immunoblotting, ELISA)
  - ☐Conventional molecular biological techniques (e.g. cloning, Sanger sequencing)
  - ☐Conventional cell culture techniques (e.g. maintenance and manipulation of primary cells or cell lines, *in vitro* assays)
  - ☐Mass spectrometry   ☐NMR   ☐Gas/liquid chromatography   ☐Organoid technologies   ☐Animal experimentation techniques
  - ☐Handling of human samples
  - Omics: ☐Genomic/epigenomic NGS   ☐Bulk RNAseq   ☐Single cell RNAseq   ☐Proteomics   ☐Metabolomics
  - Microscopy: ☐Confocal   ☐Light sheet   ☐Super-resolution   ☐Electron   ☐In vitro Live imaging   ☐In vivo live imaging   ☐AFM
  - ☐Imaging mass cytometry   ☐Other
  - Cytometry: ☐Conventional flow cytometry   ☐Full spectrum flow cytometry   ☐Mass cytometry
  - Coding: ☐R   ☐Python   ☐C++   ☐GPU computing (e.g. OpenCL, CUDA, HIP)   ☐Java   ☐ImageJ macro
  - ☐SQL
  - ☐Other
  - ☐Other knowledge and skills (specify)
4. **Among the skills and knowledge you chose in 3, which ones receive your priority to develop? Again, keep the goals of your PhD training and long-term plan in mind.**
5. **List the courses you plan to take to obtain the required ECTS points.**  
*You can find courses offered at the University of Fribourg in the [Training Offer](#) document.*
6. **In addition to the courses you listed in 5, how do you plan to acquire the knowledge and skills you would like to master? This includes extra courses at other institutions, attendance to national/international workshops, use of online resources (e.g. Coursera, edX) or, in some cases, short-term visits (several days/weeks/months) to an external research group.**

# ***FGLM Finishing your PhD***

# FGLM Finishing your PhD

## 1. Jury selection

The jury for your PhD thesis will consist of your supervisor, an internal expert (part of your department) and an external expert (expert in your field from another university) and the president of your department (in case he cannot participate you will be assigned another professor).

Your jury must be validated by the Faculty Council (which meets 3x per semester). This validation will be requested by your supervisor.

## 2. Submitting your thesis

You will have to send your thesis to the members of your Jury (except the president), do not forget to include the examiner's report form. The members will have at least **one month** to read your thesis. Register your thesis for the doctoral examination (MyUnifr.ch -> Courses -> Submit a thesis). Submit an electronic copy of your thesis as well as a declaration of honor. Bring one printed copy of your thesis (must be bound) to your respective secretary.

## 3. Report & Circulation

Your Jury members send in their examiner's reports to the Dean's office (has to be done in the original not online). They recommend to either:

- Accept the thesis,
- Accept with revisions,
- Refuse but give the possibility of resubmission,
- Refuse

If your thesis was not accepted, you have **one** additional attempt. Once the reports are in, your thesis will be made available to all professors of the department for **two weeks**. They must validate that they approve of your thesis.

## 4. Defense

You can schedule your private thesis defense at least **one month** after the reports are submitted. The defense will consist of a presentation followed by an oral exam in presence of only you and your Jury. The Jury will deliberate immediately after your defense and decide whether you:

- Passed
- Must repeat your defense in 3 months or more
- Failed

## **5. Public presentation**

Between **1 - 4 weeks** after your defense you must have a public presentation of your thesis that will be open to everyone. At the end of this, your supervisor will give you a certificate stating that you have completed your thesis.

## **6. Final submission**

Within **6 months** after your defense, you must submit the final version of your thesis with potential corrections. Bring one printed copy of your thesis to the Doctorate office at the Dean's office. The Dean checks it, and you will receive it back with a page signed by the Dean. You then print 4 bound copies including the page signed by the Dean and submit them to the Dean's office. You will receive a certificate allowing you to use the title of "Dr. ..."

## **7. Graduation**

There will be an official graduation ceremony in February. Diplomas will be sent by postal mail if you cannot attend.

# *FGLM Frequently Asked Questions (FAQ)*

## **Fribourg Graduate School of Life Sciences & Medicine (FGLM)**

### **Frequently asked questions (FAQ)**

Detailed information on the FGLM can be found in the FGLM bylaws and here: <https://www3.unifr.ch/bio/en/studies/doctorate/>. Below, we address some commonly asked questions.

- **Who puts together the thesis committee?**

It is the duty of the doctoral student to contact PIs to join her/his committee, in collaboration with and pending approval of the thesis supervisor.

- **Who organizes thesis committee meetings?**

It is the duty of the student to contact PIs to schedule her/his committee meeting, in collaboration with and pending approval of the thesis supervisor.

- **Who writes thesis committee meeting protocols?**

Students have to bring the meeting protocol to the meetings. The thesis committee fills out the protocol.

- **Who stores/where are protocols and record sheets stored?**

Protocols are stored in the department secretariat (Rachel Sauge, DepBL, [rachel.sauge@unifr.ch](mailto:rachel.sauge@unifr.ch)), together with all other forms of the student (contract, admission, etc.).

- **Where can I find information on the continued training offer/courses, ECTS points, and the requirements for graduating?**

Please see the bylaws and also consult the following website: <https://www3.unifr.ch/bio/en/studies/doctorate/>

- **Who checks fulfillment of the requirements (credits, visits of conferences) to graduate?**

The supervisor checks the fulfillment of requirements for graduation. However, it is the duty of the student to keep track of all her/his activities and hand in all requested certificates. The student hands in the completed record sheet, signed by the supervisor, at the end of the doctoral studies.

- **Whom can I ask if I have administrative questions?**

For all administrative questions, you can ask Rachel Sauge (secretary at the DepBL, [rachel.sauge@unifr.ch](mailto:rachel.sauge@unifr.ch); DepBL, PER 04, office 0.108, Rue A.-Gockel 3, +41 26 300 8810). All other questions can be directed to the doctoral students on the FGLM committee or to the two co-heads of the FGLM (currently: Prof. Jörn Dengjel, [joern.dengjel@unifr.ch](mailto:joern.dengjel@unifr.ch), and Prof. Jens Stein, [jens.stein@unifr.ch](mailto:jens.stein@unifr.ch)).