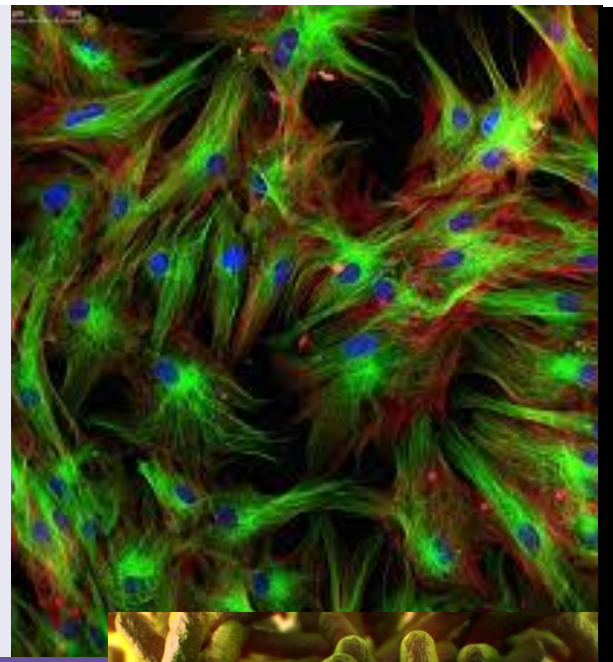
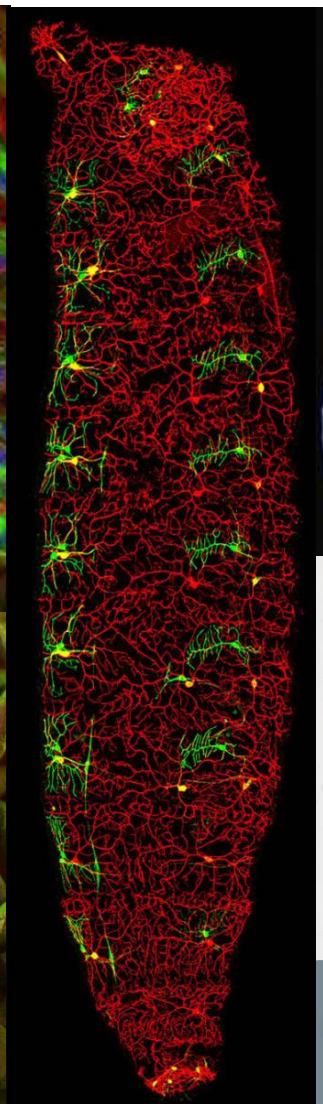
UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG

Master studies in Biology

all documents are available on our web page:
unifr.ch/bio







Master Days 2026, BIOLOGY

Program:

17.00 - 17.20	**Introduction to Biology Master programs***	same room and same MsTeams link
17.20 - 17.40	**MSc in Environmental Biology***	
17.40 - 18.00	**MSc in Molecular Life and Health Sciences***	
18.00 - 18.25	**MSc in Bioinformatics and Computational Biology***	same room new MsTeams link

Study advisor, BSc and MSc Biology/Biochemistry:

Dr Steve Robatel

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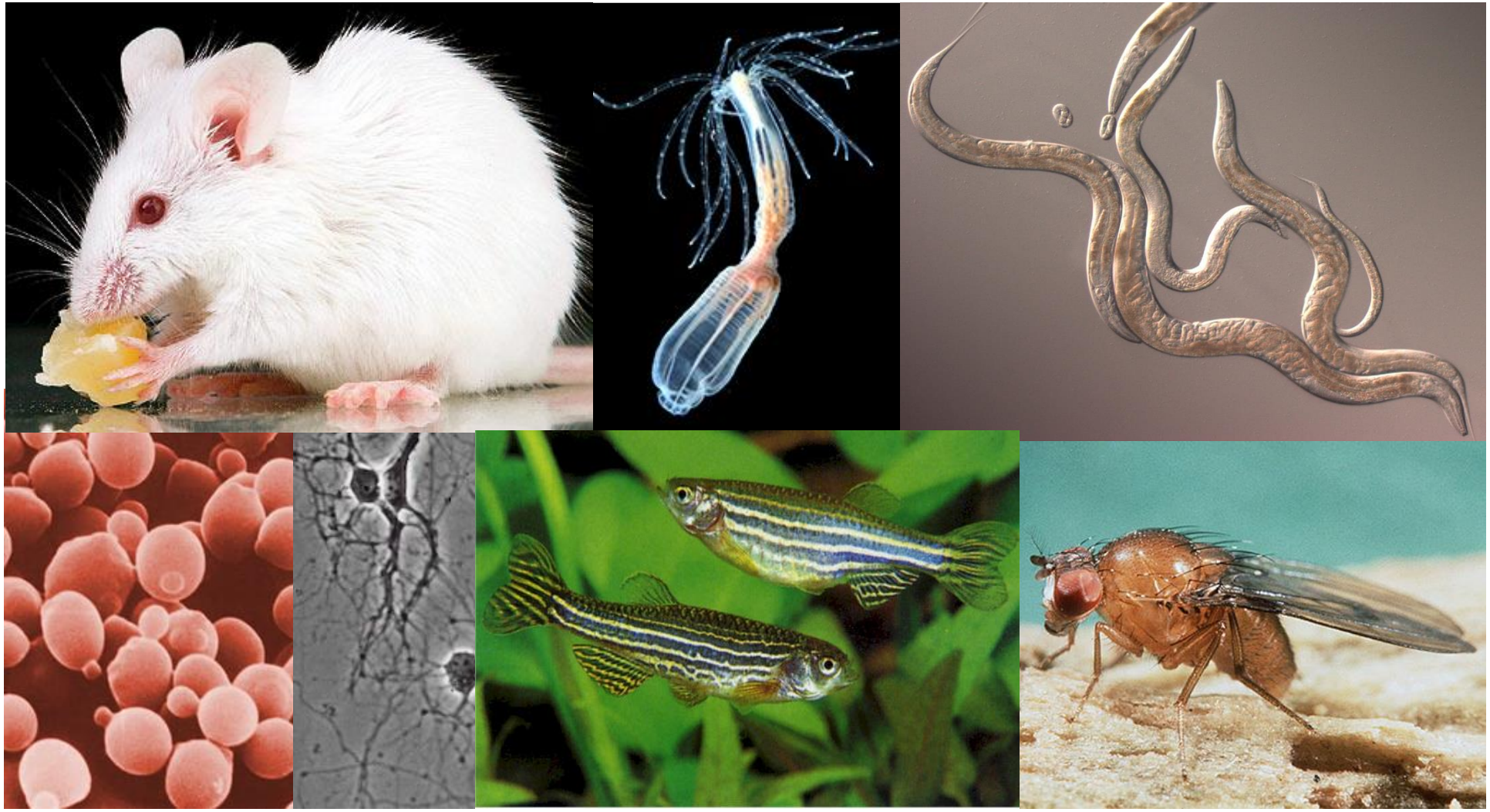
PER05 0.349
steve.robatel@unifr.ch

* Prof. Laure Weisskopf
* Prof. Daniel Wegmann
* Dr Alessandro Puoti

The Department of Biology

Biochemistry

“Zoology”

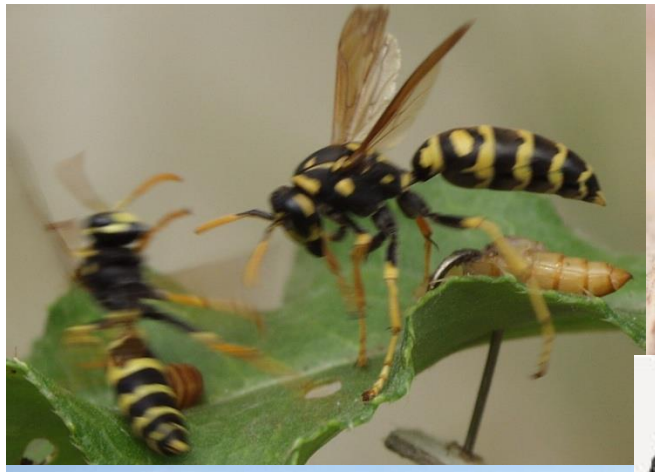


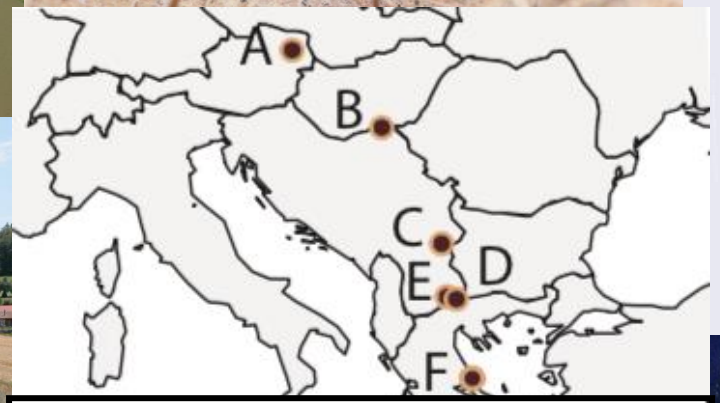
“MSc in Molecular Life and Health Sciences”

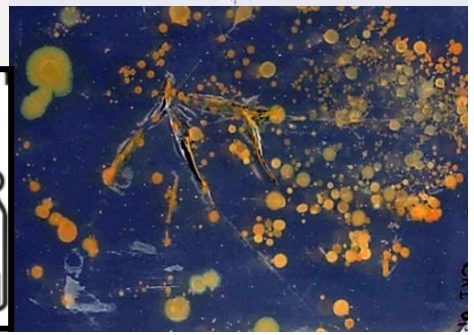
The Department of Biology

Ecology and Evolution

Plant and Microbial Sciences



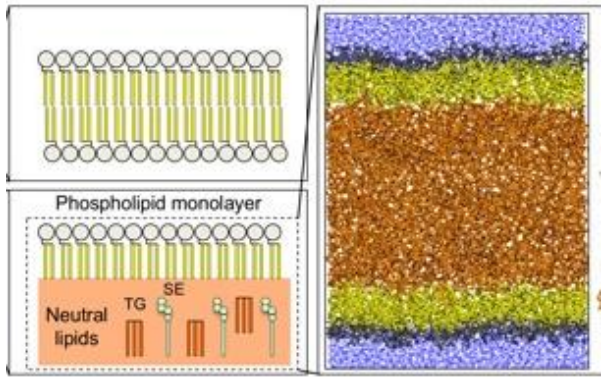


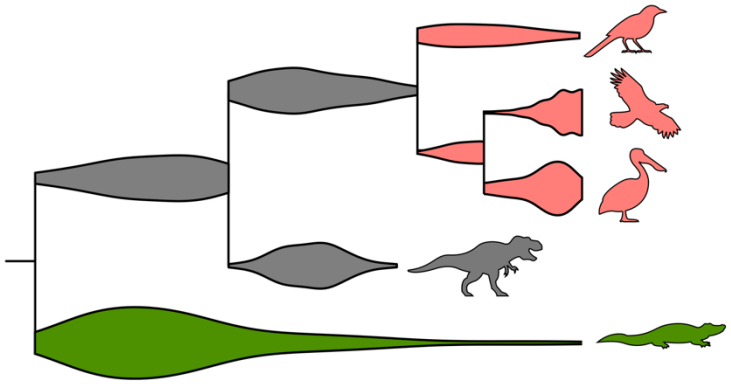


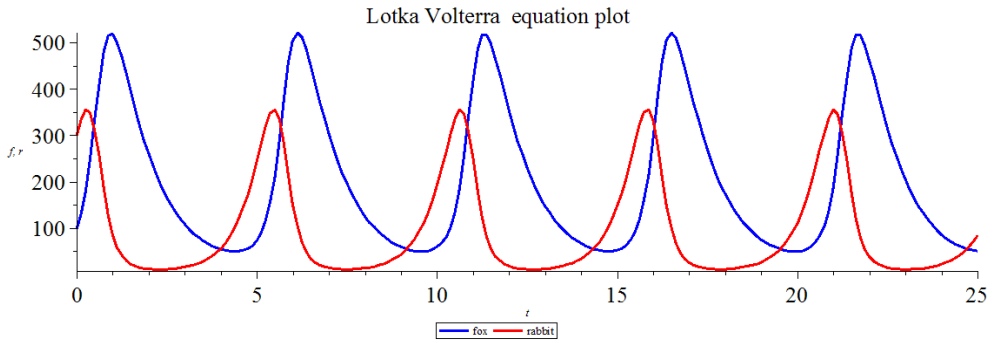
"MSc in Environmental Biology"

The Department of Biology

Bioinformatics, Modelling, and Biomathematics







"MSc in Bioinformatics and Computational Biology"

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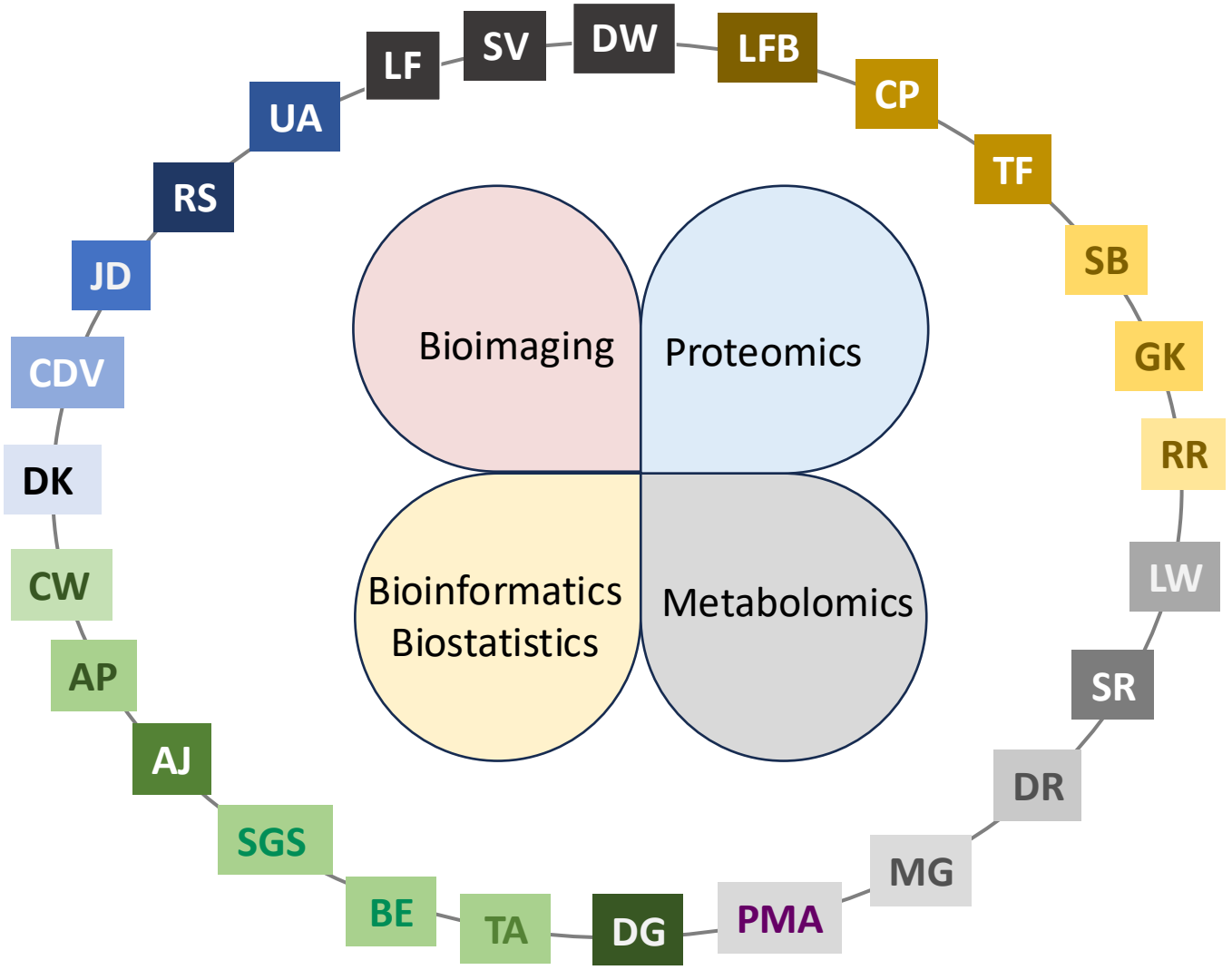
Structure of the Department of Biology

26
Independent
research groups

4
Technical platforms

- Bioinformatics
- Evolution
- Ecology
- Plant-Microbe Interactions
- Cell Biology
- Neurobiology
- Developmental Biology
- Biochemistry
- Molecular Biology
- Genetics



Research activities at the Department of Biology

Research domains

Gene regulation
Autophagy
Cell differentiation
Growth control
Metabolism
Biosynthesis
Molecular interactions
Regulatory pathways
Community ecology
Conservation biology
Evolution
Interactions between organisms
Environment
Microbiology
Neurobiology
Regeneration
Biological clocks
Behaviour
Marine Biology
Epigenetics

Methodologies/Tools

Molecular Biology
Biochemistry
Histology
Microscopy
Cell culture
Proteomics
Optogenetics
Genome editing
Metabolomics
Cell Biology
Bioinformatics
Field work
Statistics
Modelling
Forward and reverse genetics
Classical model organisms
New model organisms

Applications

Basic knowledge of Life
Molecular medicine
Industrial biotechnology
Transmission of knowledge
Applied research
Gov. / non-gov. offices

Our Department's Master programmes

Research MSc in Molecular Life and Health Sciences, 120 ECTS
Master thesis 60 ECTS

Teaching MSc in Molecular Life and Health Sciences, 90 ECTS
Master thesis 45 ECTS

Research MSc in Environmental Biology, 120 ECTS
Master thesis 60 ECTS

Teaching MSc in Environmental Biology, 90 ECTS
Master thesis 45 ECTS

MSc in Bioinformatics and Computational Biology, 120 ECTS
Master thesis ECTS

Structure of our Biology MSc Programmes

MSc in **Molecular Life and Health Sciences**

4 options

120 ECTS

49 ECTS courses and general skills

DBR | NEU | BCB | MAR

11 ECTS seminars

60 ECTS
Master thesis

MSc in **Molecular Life and Health Sciences**

Teaching

90 ECTS

36.5 ECTS courses and general skills

8.5 ECTS seminars

45 ECTS
Master thesis

DBR : Developmental Biology and Regeneration
NEU: Neurobiology
BCB: Biochemistry and Cell Biology
MAR: Marine Biology

MSc in **Environmental Biology**

3 options

120 ECTS

50 ECTS courses and general skills

EE | PMS | AEB

10 ECTS seminars

60 ECTS
Master thesis

MSc in **Environmental Biology**

Teaching

90 ECTS

37.5 ECTS courses and general skills

7.5 ECTS seminars

45 ECTS
Master thesis

EE : Ecology and Evolution
PMS: Plant and Microbial Sciences
AEB: Applied Environmental Biology

General skills

SBL.00431	Seminars in Biology	2 ECTS
--- ---	Scientific English for MSc students	max 6 ECTS
SBL.00427	Visual communication of data	1 ECTS
SBL.10004	Ethics in stem cell research	1 ECTS
SBL.10001	Modelling human disease in experimental model organims	2 ECTS
SBL.10002	From bench to bedside	0.5 ECTS
SBL.10100	Journal club in molecular life sciences	3 ECTS
SBL.20005	Critical reading	3 ECTS
SBL.00410	Scientific writing	3 ECTS
SBL.20001	Biostatistics I	3 ECTS
SBL.20002	Biostatistics II	3 ECTS
SBI.07108	Introduction to R	2 ECTS
SBI.07109	Programming with R	1 ECTS
SBL.00420	Career profiling in life sciences	1 ECTS
SBL.10015	Breaking into the industry	1 ECTS

Technical skills

SBL.00125	Light and fluorescence microscopy	3 ECTS
SBL.10013	Zebrafish license course (practical)	1 ECTS
SBL.20003	Methods in plant pathogen interactions	2 ECTS
SBL.20004	Introduction to metabolomics	2 ECTS
SBL.00419	Advanced imaging	1 ECTS
SBL.00451	Introduction to mass spectrometry and proteomics	1 ECTS
SBL.00452	Advanced quantitative proteomics	2 ECTS
SBL.06002	Classical models in biology (with exercices)	3 ECTS
SBC.04203	Genotyping	2.5 ECTS
SBI.07110	Introduction to UNIX and BASH	2.5 ECTS
SBI.07107	Bioinformatics (practical + in silico)	3 ECTS
SBL.05001/2	Master thesis (including research seminars)	45 / 60 ECTS

Lectures, Seminars and Practical courses

- Topical courses taught by specialists in the field
- 100 % in English
- English: the target level is B2-C1; at least B1 is required for admission
- All courses are 100 % at Master level
- Little or no recapitulation of bachelor’s levels courses
- Students are expected to have a solid theoretical and practical background

Admission with a BSc from another University

MSc in Environmental Biology

BSc in Biology, BSc in Biochemistry, or equivalent

Prerequisites (may vary, depending on the option):

- **Practical skills**

- Vertebrates
- Invertebrates
- Botanics
- Comparative anatomy
- Microbiology
- Ecology
- Evolution
- Statistics
- Plant physiology
- Animal physiology
- Molecular biology
- Population genetics

MSc in Molecular Life and Health Sciences

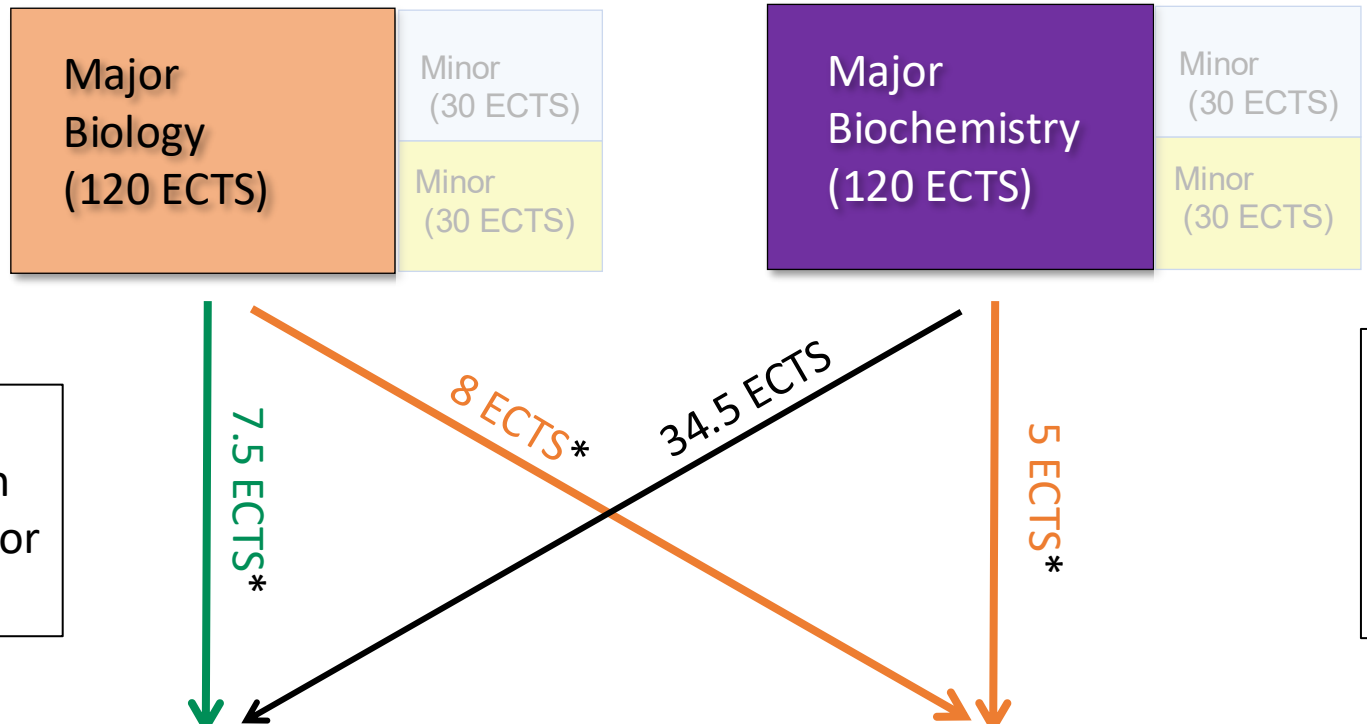
BSc in Biology, BSc in Biochemistry, or equivalent

Prerequisites (may vary, depending on the option):

- **Laboratory skills**

- Cell Biology
- Biochemistry
- General and organic chemistry
- Microbiology
- Methods in molecular biology
- Methods in biochemistry
- Animal physiology
- Molecular biology
- Developmental biology
- Neurobiology
- Genetics

Admission with a BSc from UniFr



* small complements can be easily acquired through a minor during the bachelor studies

No complement is required for

- Teaching options
- MSc in Bioinformatics

MSc Environmental Biology
3 options 120 ECTS
1 option 90 ECTS (Teaching)

MSc Molecular Life and Health Sciences
4 options 120 ECTS
1 option 90 ECTS (Teaching)

MSc in Bioinformatics and Computational Biology (120 ECTS)

Get informed about our Biology Master programmes

https://www.unifr.ch/bio/en/studies/master/

MSc in Environmental biology

- Ecology and evolution
- Plant and microbial sciences
- Applied environmental biology
- Teaching

Major environmental problems, in particular global change and its consequences for biodiversity and ecosystem functioning, are intimately interconnected and pose a threat to our future. Solving these problems requires an integrative and synergistic approach in terms of both fundamental and applied research.

The Department of Biology of the Faculty of Science and Medicine offers a multidisciplinary **Master of Environmental Biology**. The program ranges from fundamental concepts in **ecology and evolution, molecular aspects of plant and microbial sciences** to **applied solutions for environmental policies and sustainable development**. It provides students with state-of-the-art training and background in conceptual, technical, and applied aspects of environmental biology, from genes to ecosystems.

Master students are integrated into active research teams and can thus gain extensive experience in basic and applied academic research in environmental biology. Students will have the opportunity to choose between four options. English is the official language for all activities.

Available options

1. Ecology and Evolution | 120 ECTS
2. Plant and Microbial Sciences | 120 ECTS
3. Applied Environmental Biology | 120 ECTS
4. Teaching | 90 ECTS

↓ Information booklet

Degree Conferred
Master of Science
in Environmental Biology

Language(s) of Study
English

Programme Structure
120 ECTS credits
4 semesters

or

90 ECTS credits
3 semesters full-time

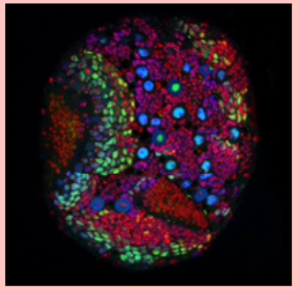
Programme Start
September or February

Student Advisor
Dr Steve Robatel
bio-scimed@unifr.ch

Application deadline (Fall semester) : April 30th (late admission : August 31th)

MSc in Molecular life and health sciences

- Biochemistry and cell biology
- Developmental biology and regeneration
- Neurobiology
- Marine biology
- Teaching



Molecular mechanisms govern the fate and the function of every cell, from archaea living in the remotest trench in the ocean, to the highly connected cells of our brain. Interestingly, cells of various origins share common genes, and therefore use similar proteins and molecular pathways. These can be explored in a variety of model organisms and cultured cells, which you will discover in this exciting Master programme that bridges fundamental molecular science and potential applications to understanding human health and disease.

The Department of Biology of the Faculty of Science and Medicine offers a multidisciplinary study programme leading to the degree of

Master of Science in Molecular Life and Health Sciences

with four research options.

The programme consists of **120 ECTS credits** and corresponds to **24 months of full-time study**.

Students aiming at becoming **high school teachers** and having to acquire 30 additional ECTS credits in a different study domain, can choose the **option "Teaching"** consisting of 90 ECTS (18 months).

Available options

1. Developmental Biology and Regeneration | 120 ECTS
2. Neurobiology | 120 ECTS
3. Biochemistry and Cell Biology | 120 ECTS
4. Marine Biology | 120 ECTS
5. Teaching | 90 ECTS

↓ Information booklet

Degree Conferred
Master of Science in Molecular Life and Health Sciences

Language(s) of Study
English

Programme Structure
120 ECTS credits
4 semesters full-time

or

90 ECTS credits
3 semesters full-time

Programme Start
September or February

Student Advisor
Dr Steve Robatel
bio-scimed@unifr.ch

Additional Information
→ Regulations

Get informed about Biology Master programmes at UniFr

Info booklets

Language courses

We do not require a language test for admission, but students must at least be able to read and understand English.

Most students greatly improve their English and communication skills during the Master.

Our Master students often take:

B2-C1 Writing & Grammar Skills: Revision for English Academic Texts (Blended Course)

English
Tuesday 15:15 - 17:00
17.02.2026 - 26.05.2026

B2-C1 Academic English for Master's Students: Word power, critiquing skills and communicating with audiences

English
Tuesday 13:15 - 15:00
17.02.2026 - 26.05.2026

Semester Courses

German, French, English, Italian
Students and employees Unifr and partner institutions
Weekly courses, during the semester
A1 - C2

Spring Semester 2026 - Course Registration Information →
Registration period: 02.02. - 01.03.2026
Beginning of classes: first week of the semester

Students of the University of Fribourg can register directly via **MyUnifr**. For all other groups (employees of Unifr, employees and students of our partner institutions), course registration takes place via our website.

German
Courses and registration →

French
Courses and registration →

English
Courses and registration →

https://www.unifr.ch/centredelangues/en/courses

Courses in Bern and Neuchâtel

BeNeFri

Legal basis

All the BeNeFri network details are available on the University rules and regulations web page.

Registration

Registration requests to BeNeFri courses must be submitted on the MyUnifr portal within the following deadlines:

- Autumn semester: **30 September**
- Spring semester: **28 February**

❗ Registrations are valid for **one semester only**. You will therefore have to reregister for each semester if you wish to remain registered with the BeNeFri network.

https://www.unifr.ch/studies/en/organisation/administrative-services-unifr-students/benefri.html

Why continuing with a Master?

After the Bachelor, the Master is your second step towards becoming a biologist/biochemist

- Use the knowledge acquired during the Bachelor
- explore a more specialized topic
- acquire independent and creative thinking
- learn how to communicate and present your results
- learn how to write a scientific paper in English
- learn how to have a critical approach of your and other's results
- organize yourself in planning experiments

The duration of the **120-ECTS** Master (Research options) is **4 semesters**, including 1.5 years full-time dedicated to the thesis / laboratory work.

For a **90-ECTS** Master (Teaching options), the duration is **3 semesters**, including 1 year full-time dedicated to the thesis / laboratory work. These options are specifically designed for future **teachers at secondary level II**.

Perspectives with a Master degree in Science

The Master widens your job opportunities. Your next step might be …

- starting a PhD
- working or being trained in a private or public company
- working as a lab manager in an academic research laboratory
- working as a salesperson
- working in patent offices, funding agencies, information
- working in regulatory affairs (GO and NGO)
- becoming a medical analyst (FAMH)
- getting a teaching diploma (DEEM / LDM)

One year after having obtained a MSc from UniFr:

93.4 %	are active in sciences, including 4.9 % in search of an employment
6.6 %	are inactive in sciences. (family, travelling, other studies,….)

Timeline (120 ECTS programmes)

Semester 1

- Take as many classes as possible (Master courses, complements)
- Start looking for a laboratory
- Follow the seminars (mandatory)

Semester 2

- Start the laboratory work
- Start organizing the written Master's thesis, literature searches
- Take the mandatory classes offered in the Spring semester
- Take complementary courses, if this applies
- Follow the seminars, give your first progress report

Semester 3

- Carry on your laboratory work. New questions? New perspectives?
- Read and organize the literature related to your thesis project
- Seminars: mandatory presentations (progress report, Journal club)
- Take additional classes

Semester 4

- Carry on and bring your laboratory work to an end
- Finish writing the Master thesis (50-100 pages)
- Take remaining classes
- Prepare and present the Master thesis defense (30 minutes).