# Master thesis research in collaboration with research institutions

- 1. KU Leuven
- 2. UMons
- 3. UGent
- 4. ULiège
- 5. UAntwerpen
- 6. UNamur
- 7. VUB
- 8. ULB
- 9. UC Louvain

#### Unique (International) Master programs

- 10. TROPIMUNDO
- 11. Oceans and Lakes
- 12. IMBRSea
- 13. Sustainable Development
- 14. Nematology
- 15. Aquaculture

## **KU LEUVEN**

# Biology at KU Leuven

Master of Biology Master of Sustainable Development



# Highly innovative university...

## Four years in a row: KU Leuven once again tops Reuters ranking of Europe's most innovative universities

#### 🖬 30 Apr 2019

For the fourth year in a row, KU Leuven tops the Reuters ranking of Europe's most innovative universities. The University of Erlangen Nuremberg and Imperial College London are second and third on the list.

## KU Leuven climbs to 42nd place in Times Higher Education World University Rankings

#### 🔁 02 Sep 2021

*Times Higher Education* magazine has published its annual World University Rankings. KU Leuven rises three places and is now ranked 42<sup>nd</sup>. As a result, KU Leuven remains Belgium's highest-ranked university and consolidates its position among the world's top 50 universities.



**KU LEUVEN** 

## ... in a beautiful, green student city



Sciences, Biology

# Why Master of Biology at KU Leuven?

100% English master with a **broad biological foundation** preparing you for diverse career paths on the job market...

...with the flexibility to choose additional courses depending on **your field of interest and needs.** 





# Why Master of Biology at KU Leuven?

Be a part of groundbreaking research.

#### **Master's Thesis**

#### Ecology, Evolution & Biodiversity Conservation





#### Molecular Biotechnology of Plants and Micro-organisms



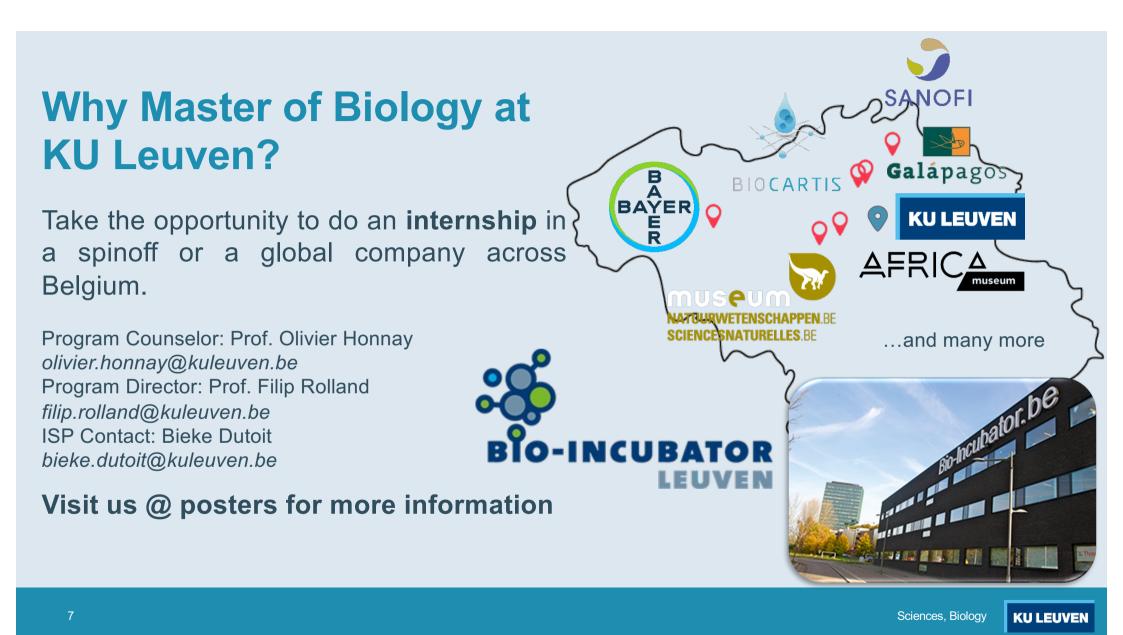








Sciences, Biology



# Why Master of Sustainable Development?

**Research-driven** training of the sustainability leaders of the future.

**Interdisciplinary** program bridging societal & ecological sustainability.

Includes **field course** in South Africa and **internship** in a company or scientific institution.

Prof. Constanza Parra constanza.parra@kuleuven.be Klara Claessens klara.claessens@kuleuven.be

## Visit us @ posters for more information

THE BELGIAN DEVELOPMENT COOPERATION





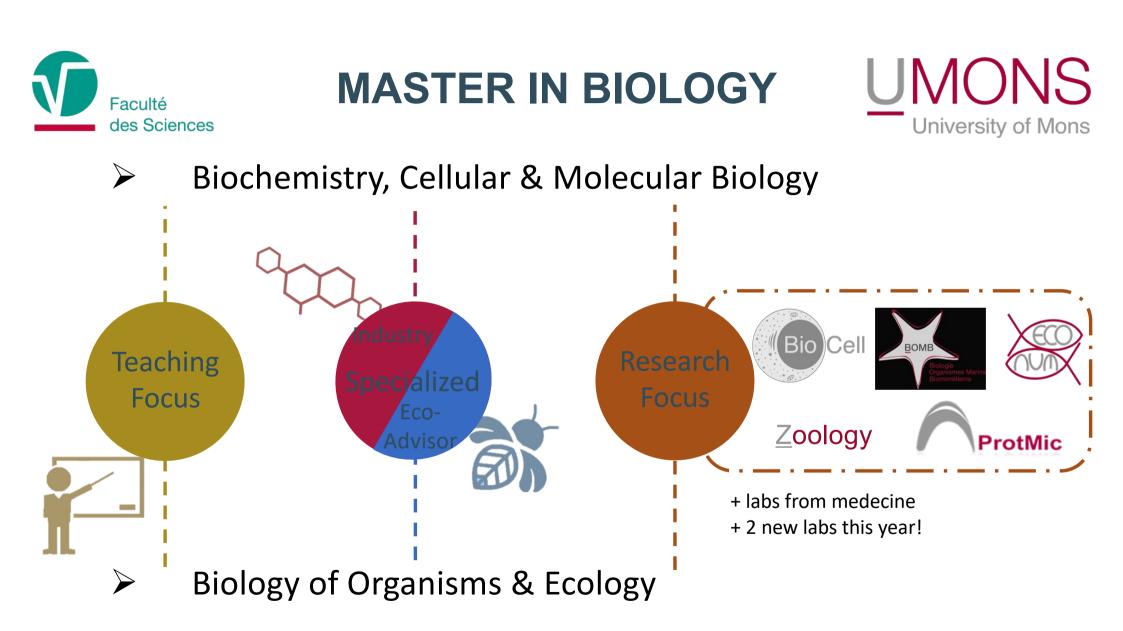
Sciences, Biology

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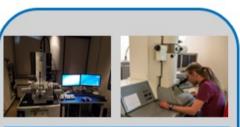
# **MASTER IN BIOLOGY**





## Research and teaching in one campus





Specific equipment









International







# **MASTER IN BIOLOGY**



#### Human-scaled university

9000 students + 500 PhD students

#### Green campus















New Master In Belgium !

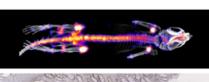




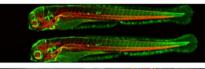














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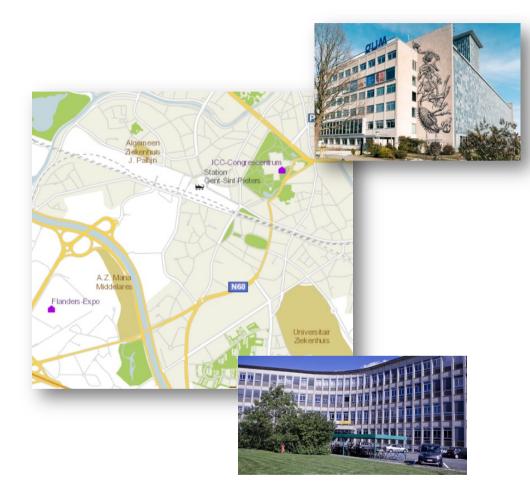
### Unique (International) Master programs

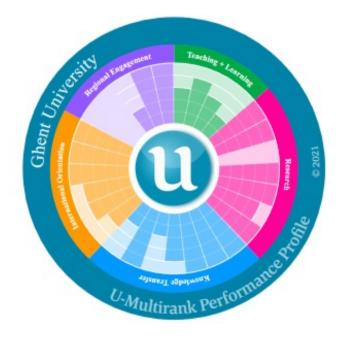
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## **Biology Master degrees - UGent**









#### international competence: fully English Research MSc





## Major programs

## Compulsory courses (all majors, 18 ECTS)

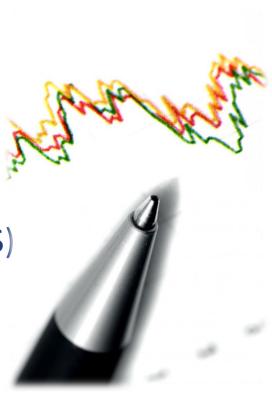
Advanced Biostatistics (5)

Computational Biosciences (5)

Academic Grant Writing (3)

Scientific Communication (5)

Major specific courses (all majors, 42 ECTS) See posters



# Minor (30 ECTS)

## optional courses from this list...

Proefdierkunde I	Diversity & Evolution of the metazoan phyla
Proefdierkunde II	Multivariate data-analysis
Professional internship	Spermatophytes, Phylogeny and Taxonomy
nternational course	Paleobiology of micro organisms
Biodiversity of aquatic food webs: from algae to	Marine Ecology
marine mammals	Teledetectie: beeldregistratie en -verwerking
Evolution of Primates and Paleo-anthropology	Plant & Vegetation Ecology
Ornithology	Limnology
Mycology: Basidiomycota	Functional Diversity of Prokaryotes
Fools for the exploration of prokaryote diversity	Advanced Cell Biology
Structural and functional morphology of	Molecular Plant Physiology
Spermatophytes	Insect physiology
Pteridology	Biological excursions in the human brain
Practical plant anatomy	Immunology and pathology
Microbial ecology or any other Flem	ish university course

## **Professional internships**

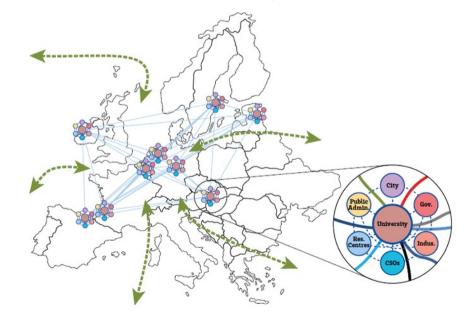
### Equivalent to 3-6 course weeks



## **International courses**

International experience International networking

Summer schools 2-3 week intensive specialist courses





#### Home Faculty of Sciences Home Ghent University In het Nederlands

#### DEPARTMENT OF BIOLOGY

#### Search

#### RESEARCH GROUPS EDUCATION ABOUT US CONTACT INFORMATION FOR ⋎

#### Research

- Education
- → Ageing physiology and molecular evolution
  → Evolutionary Morphology of Vertebrates

→ Evolutionary Developmental Biology

→ Functional Plant Biology

→ All our research groups

→ Marine Biology

→ Evolution and Optics of Nanostructures

- → Bachelor programme
  - → Master programmes
  - → PhD
  - $\rightarrow$  Course schedules
  - → Examinations
  - → Bachelor- and Master's dissertations
  - → All about education



#### GF SCIENCES

#### Feedback Privacy Disclaimer Cookies Accessibility Log in © 2021 Ghent University

https://www.ugent.be/we/biology/en

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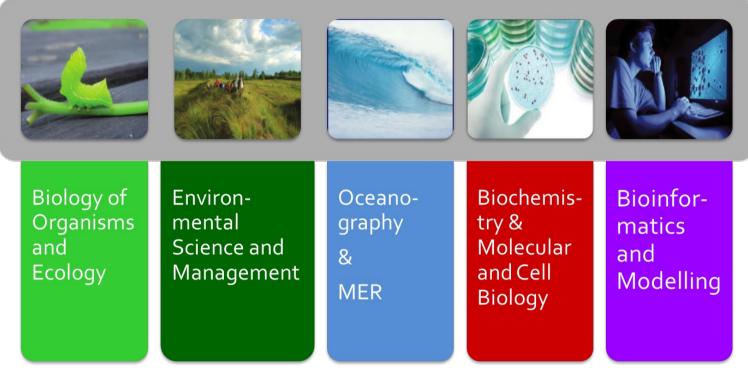
## 1 University, 3 cities, 4 campus



Master Day in Biology 2022



# **MASTERS IN BIOLOGY**



https://www.enseignement.uliege.be



## **BIOINFORMATICS AND MODELING**

#### Modeling and understanding complex biological systems with supercomputers

B1 = Biology courses + Local laboratory internships (2 x 4 weeks) B2 = Programming courses + Computer Practicals + Thesis (4 months)

75 ECTS (1 year) B2 = Bioinformatic courses (max. 15 ECTS from B1) B2 = Programming courses + Computer Practicals + Thesis (4 months)





## **Environmental Sciences**

#### Understanding and managing the environment to build sustainable development

120 ECTS (2 years) B1 = Classes + Integrated approach to environmental issues B2 = Five modules of specialization !!! Unique in Wallonia !!

**Developing countries** (partnership with U. Sherbrooke - Québec)

Renewable energies and sustainable buildings (Co-graduation with U. Luxembourg)

**Environmental monitoring** 

Integrated water resources management

**Society-Environment Interfaces** 





Contact: Prof. N. Sémal (N. Semal@uliege.be)

Arlon

# LIÈGE BIOLOGY OF ORGANISMS AND ECOLOGY

From animals to plants: the place and roles of organisms in an ecosystem



Contact: Prof. J.-C. Plumier (JC.Plumier@uliege.be)

BOE



## **OCEANOGRAPHY & MER**

#### Understanding and managing oceans to protect our planet



Station de Recherches Sous-Marines et Océanographiques STARESO - Corsica !! Unique in Wallonia !!

#### Research



Marine Environment and Resources Erasmus Mundus

- Southampton
- Pais vasco
- Bordeaux
- Liège

Biogeochemistry and climate change Marine ecology and biodiversity

Modeling and operational oceanography

MANAGEMENT OF AQUATIC RESOURCES AQUACULTURE

Contact: Prof. S. Gobert (Sylvie.Gobert@uliege.be)







https://www.enseignement.uliege.be

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# **Educational Masters**



BIOLOGY eduma [biology]



**STEM eduma** [biology+chemistry/physics/math]

# **Research Masters**



**Evolutie en Gedrag** 

[individual project]



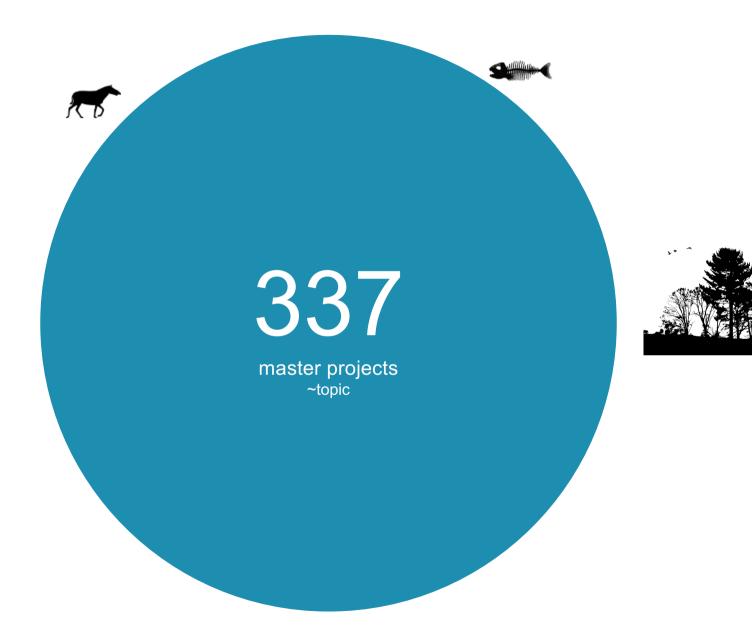
Biodiversity: Conservation and Restoration

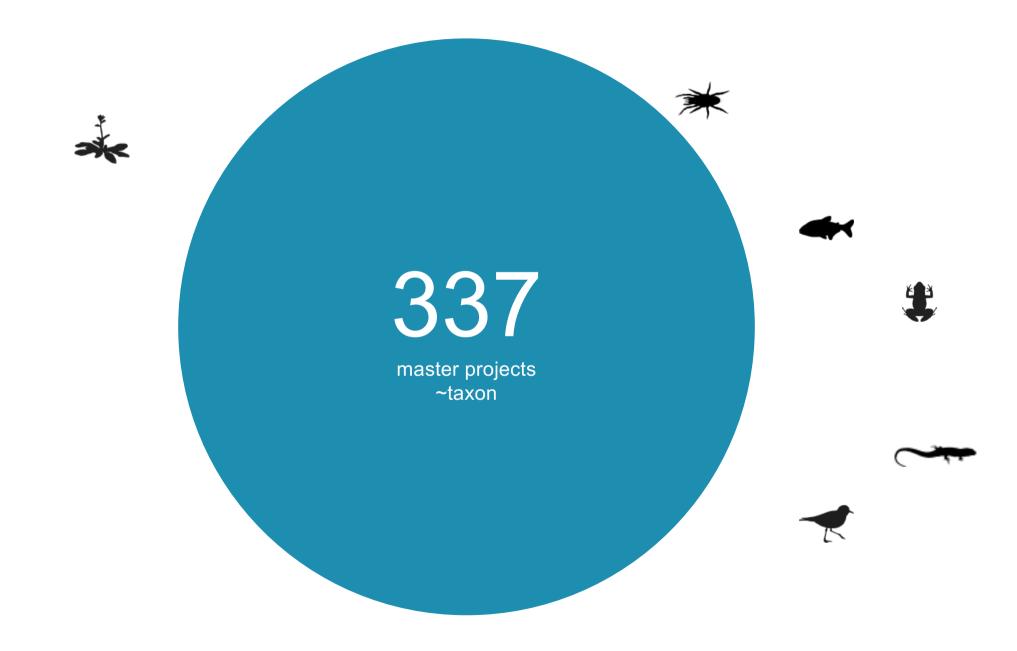
[conservation internship]

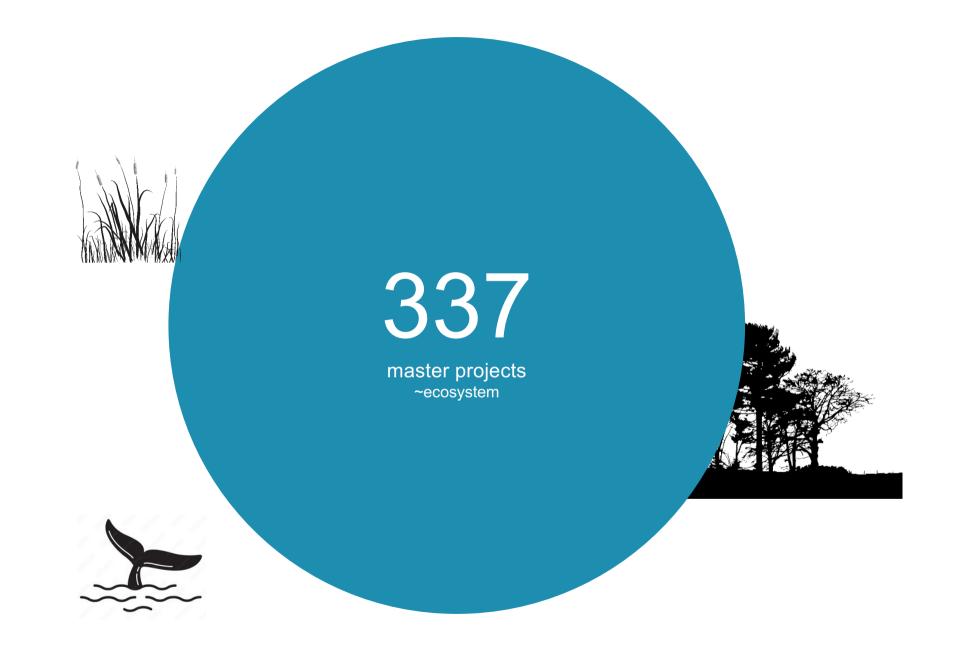


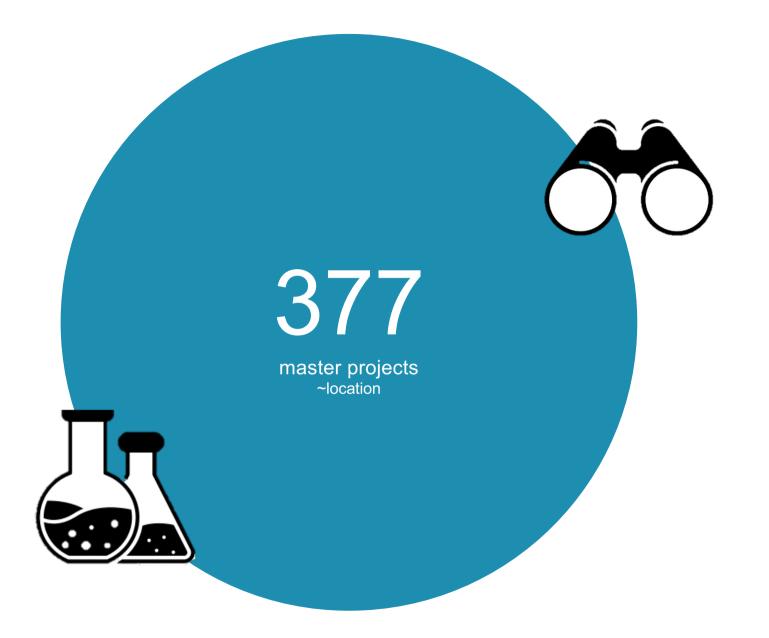
**Global Change Biology** 

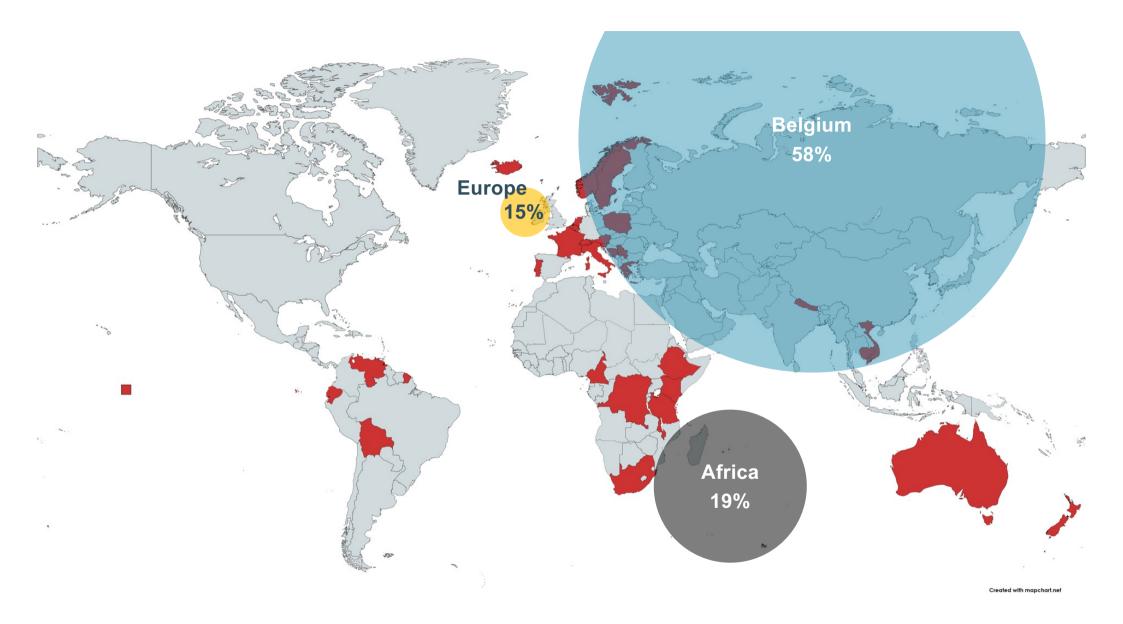
[integrated lab]



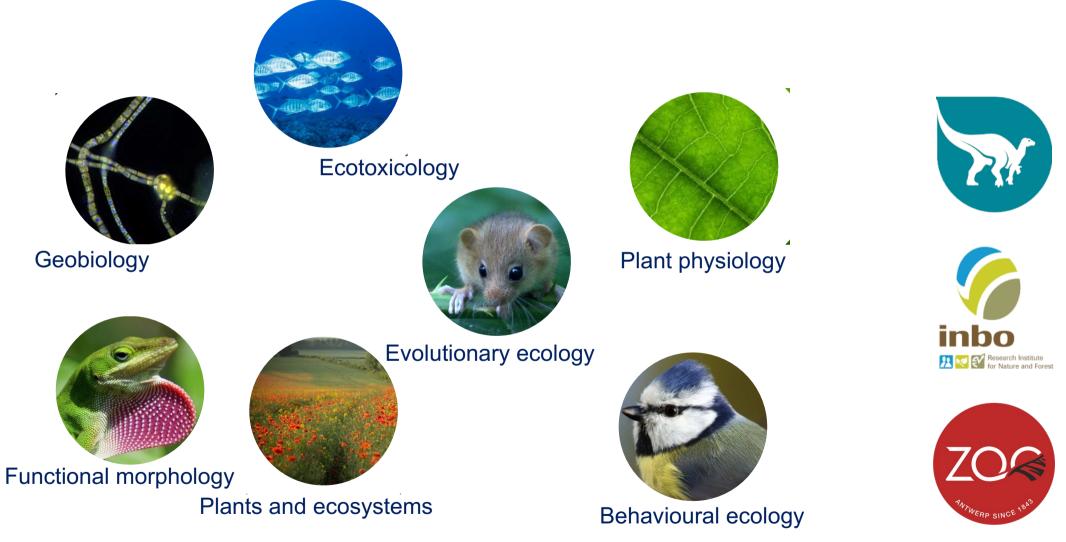


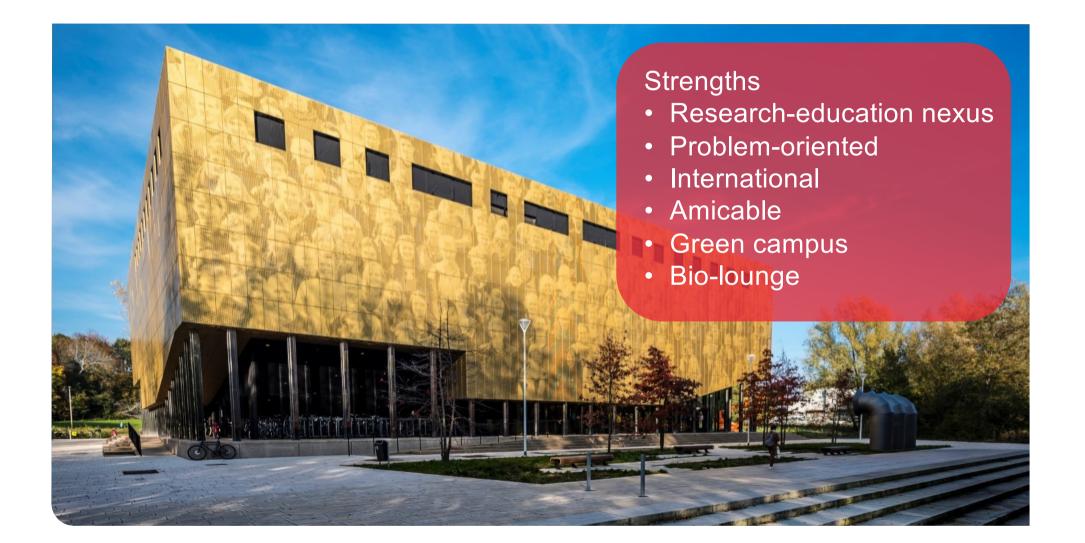






www.uantwerpen.be/en/departments/biology







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# The University of Namur (unamur.be)





- Human-size, lovely and peaceful city in the heart of Belgium
- Well connected nationally and internationally -

- Human-size University (< 8000 students) -
- Students are not numbers > proximity with professors
- UNamur is a big family -

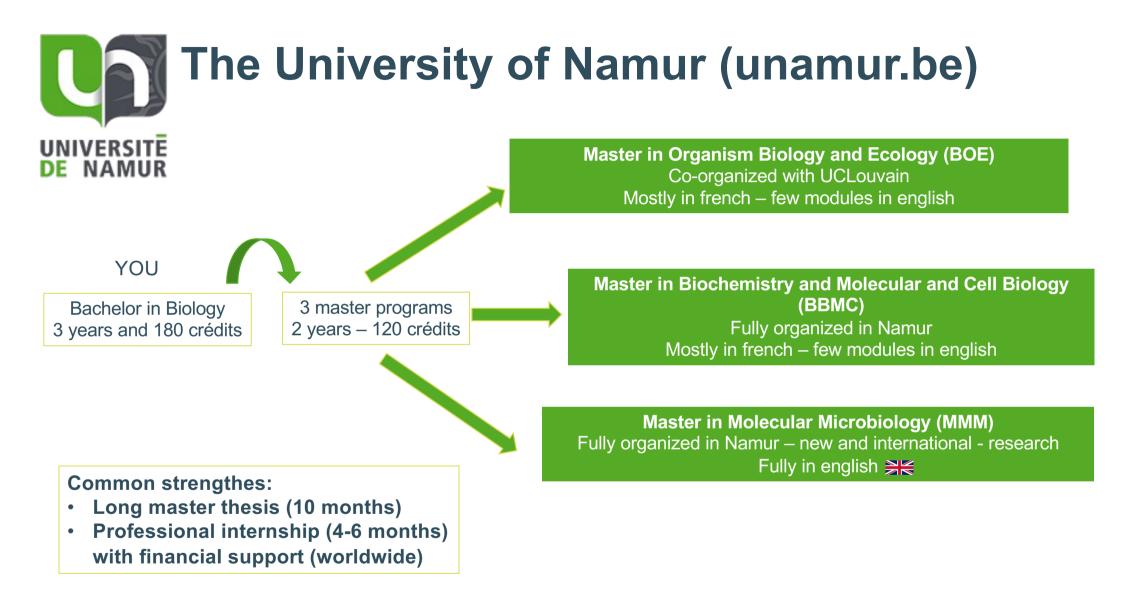
UNIVERSITE DE NAMUR

Full programs in biology with diverse research units



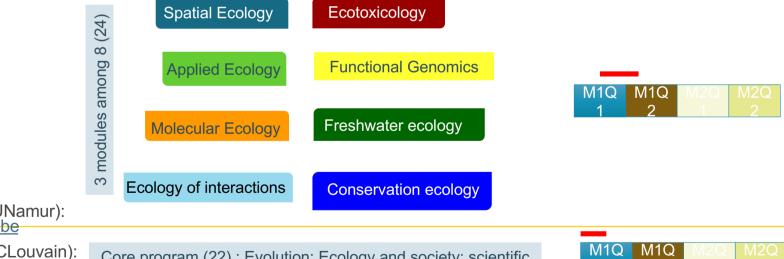
27 NOV DIVERS

L'UNamur partenaire des stages au CERN



### Master in Organism Biology and Ecology (WWW.MASTERBOE.BE)





Core program (22): Evolution; Ecology and society; scientific communication; data analysis; field trips



Prof. De Laender Frederik (UNamur): frederik.delaender@unamur.be

Prof. Wesselingh Renate (UCLouvain): renate.wesselingh@uclouvain.be

### Master in Biochemistry and Molecular and Cell Biology Four major training programmes: « Cancer, Aging, Metabolism, Stem Cells »

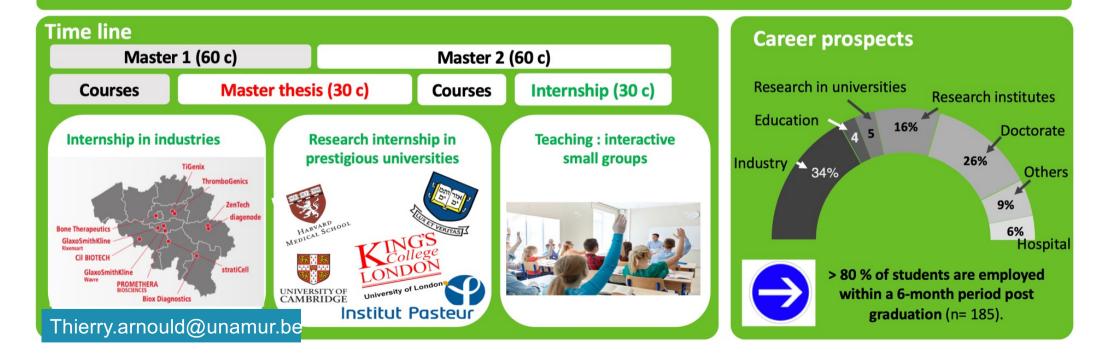


#### Strengths : the students are at the center of their programme and choose over 90 % of their curriculum

- A strong theoretical education with some courses taught in English
  - Master 1 : Modules (select 9 out of 20 modules organized : 22 h each)
  - Master 2 : Specialized scientific training (8 c) and professional insertion training (6c)-Forensic Sciences, ...
- A solid practical training (a 10-month Master thesis)

DF NAMUR

A 4-or 6 month initial professional experience in a company or a research laboratory in Belgium or abroad : Intership





### Master in Molecular Microbiologv

Jean-yves.matroule@unamur.b

https://www.unamur.be/en/sci/study-biology/master-description-microbiology

- Unique in Belgium
- In English
- Research-oriented (54 ECTS + training)
- Genetic approach
- Stimulates student mobility (European Joint Program)





<u>Semester 1</u>	Master1	Semester 2		
Mandatory Microbiology lectures (30 ECTS)	Integrated practicals + Scientific writing + <b>Research Initiation</b> (30 ECTS)			
	MandatoryIntegrated practicals + Scientific writing + Research Initiation			
Semester :	3	Semester 4		

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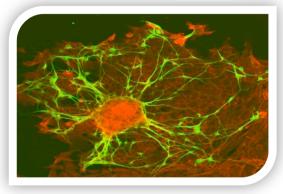




Accessible green campus in the capital of Europe



### **4 different Masters**



#### 1. Molecular & Cellular Life Sciences

Molecular biology, cell and developmental biology



3. Tropical Biodiversity & Ecosystems



2. Ecology and Biodiversity

Ecology, evolutionary biology, conservation



#### 4. Marine & Lacustrine Sciences Ecology and management of marine and lacustrine

Ecology and management of marine and lacustr ecosystems





### MSc Ecology & Biodiversity



#### **1. Ecology and Evolution**

Ecology, evolutionary biology, conservation



#### 2. Global Change

Policy, sustainable development environmental science



### **3. Herpetology**

Ecology, evolution & natural history of amphibians and reptiles



#### Learning beyond the university



Identify species in their natural habitat



Learn about environmental law at a Natura 2000 site



Experience the effects of climate change on the slopes of the Pyrenees



Learn about fisheries on board of a research vessel



Man a field station to set up a research project



Go offroad during your thesis research









**Coral reefs** 











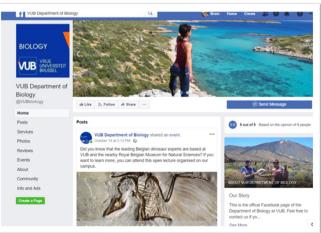


## Join us in Brussels!





75 MSc diplomas per year Truly international university Over 50 nationalities full English Master program High level research Thesis = scientific paper format Come taste the vibrant city life in an urban metropolis



Find us on www.facebook.com/VUBbiology

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Organism Biology

The ULB organizes three masters in biology or closely linked with biology:

Master in Organism Biology and Ecology Specialisations:

Didactique: Didactics/education

Approfondie: General/research, BET/research



liologie des Organismes

TROPIMUNDO.eu ERASMUS MUNDUS JOINT MASTER DEGREE IN TROPICAL BIODIVERSITY AND ECOSYSTEMS

Call for 2023-2025 applications closes 15/01/2023

Contact: Prof. Farid.Dahdouh-Guebas@ulb.be

Molecular Biology

The ULB organizes three masters in biology or closely linked with biology:

Master in Biochemistry and Molecular and Cellular Biology Specialisations:

**DVN-892** 

- Approffodie: Research
- Didactique: Didactics/education

• Contact: Prof. Eric.Bellefroid@ulb. be

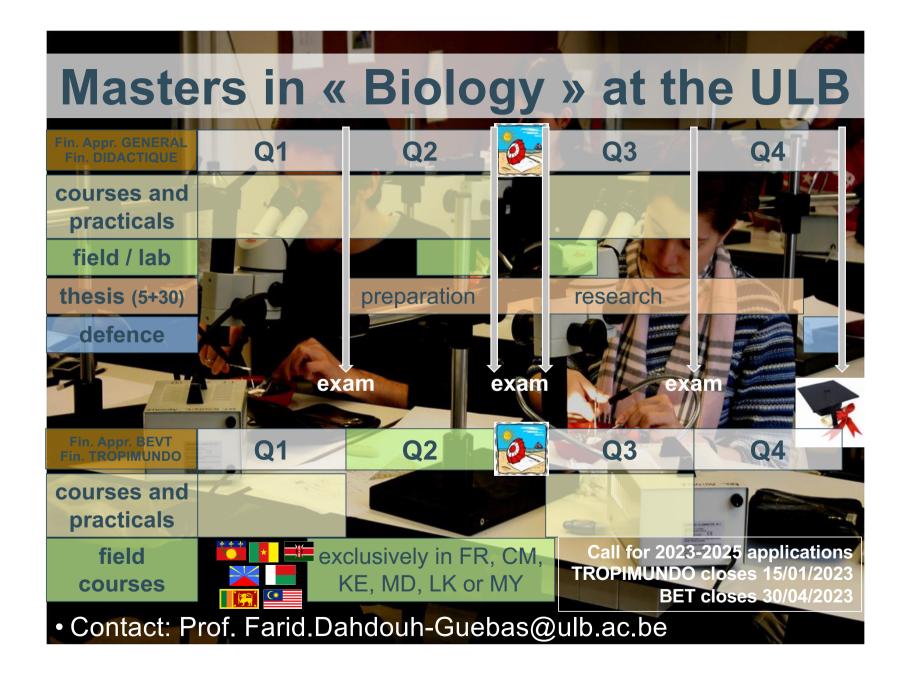
**Bioinformatics** 

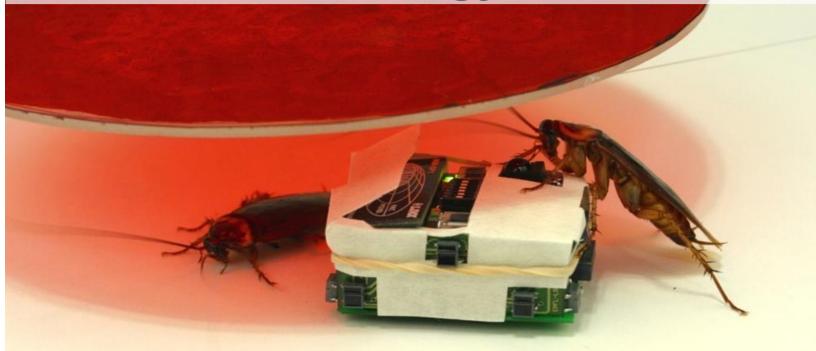
The ULB organizes three masters in biology or closely linked with \_\_\_\_ biology:

 Master in Bio-informatics and Modeling Specialisation:

Approfondie: research

Contact: Prof. Didier.Gonze@ulb.be





## Research



**Plant – environment relationships** 

Plant responses to environmental stress

#### **Biology of aquatic organisms**

ecursus Ecotoxicology

**Behavioural & evolutionary ecology** 

Biology of animal societies

**Bio-systems and conservation biology** 

<sup>ecursus</sup> Social-ecological systems





### Institut de Biologie et de Médecine Moléculaires (IBMM)

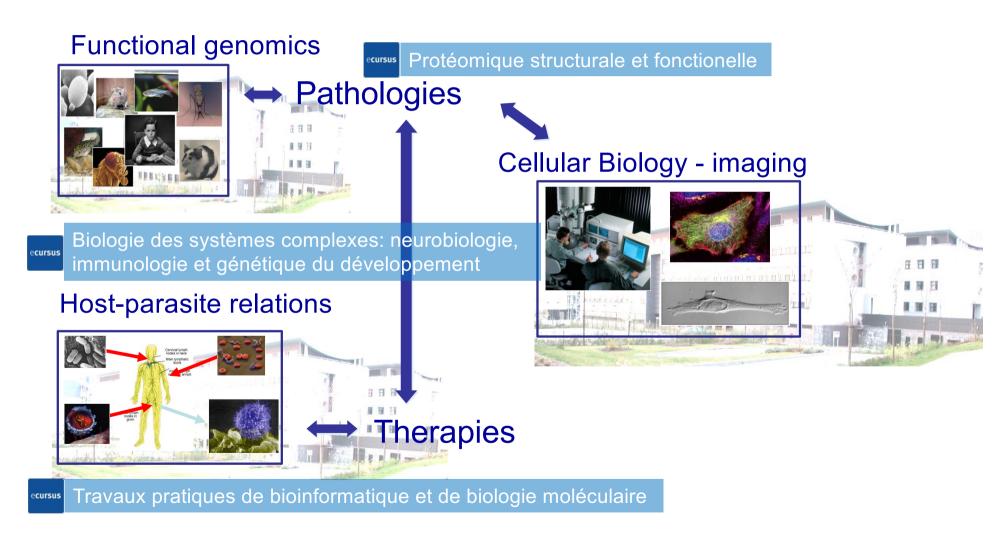


http://www.ulb.ac.be/ibmm/home.html





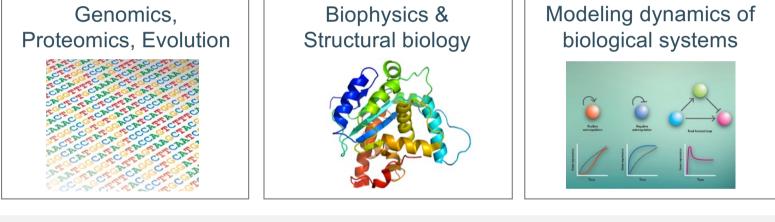
Institute of Molecular Biology and Medicine (IBMM)



## **ULB** Master in Bioinformatics and Modeling

# Interdisciplinary approaches combining biology, computer science, and mathematics/statistics

Accessible to biologists as well as to computer scientists



Block 1 (year 1, 60 ECTS)

Block 2 (year 2, 60 ECTS)

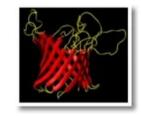
'Update' courses (10 ECTS)	Basic bioinformatics courses (50 ECTS)		Advanced courses (options) (25 ECTS)	Internship (10 ECTS)	Master thesis (25 ECTS)
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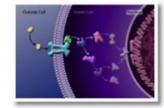
Possibility to do the master in one year (60 ECTS) for candidates who already hold a master

Informations: http://www.bioinfomaster.ulb.ac.be Contact: D. Gonze (dgonze@ulb.ac.be)

## **ULB** Master in Bioinformatics and Modeling







Big data : distributed data management and scalable analytics

Biophysics and structural bioinformatics

Modélisation des rythmes du vivant

Medical Information Systems



Image acquisition and processing





# Why ULB?

### **Excellence**

- ▲ ULB has >70 years of research on tropical botany in Africa
- ULB & VUB offer the only programme in tropical biodiversity and ecosystems that received the European Commission's educational excellence label (Erasmus Mundus)
- ▲ ULB offers integrated Molecular Biology and Medicine research in a complete innovation chain environment



### **Brussels**

- ▲ Capital of Europe
- ▲ Largest university city in Belgium
- Multi-cultural and multi-lingual (personal and professional enrichment)
- Numerous networking, internship and job opportunities through NGOs HOGESCHOOL BRUSSEL Consultancy Bureaus, Environmental Agencies,...
- ▲ European Commission







More information in the poster session or on websites of

Organism Biology

Molecular Biology

**Bioinformatics** 

Thank you for your attention

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# Welcome to TROPINUNDS

Call for 2023-2024 applications closes 15/01/2023



Anaïs Bonnefond & Benjamin Durrington





## **Erasmus Mundus** is the European Commission's (only) educational **excellence** brand label



ERASMUS MUNDUS JOINT MASTER DEGREE IN TROPICAL BIODIVERSITY AND ECOSYSTEMS

**TROPIMUNDO** is the world's only European MSc. Programme on tropical biodiversity and ecosystems with a full semester of class and field courses in the tropics



TROPIMUND ERASMUS MUNDUS JOINT MASTER DEGREE IN TROPICAL BIODIVERSITY AND ECOSYSTEMS **Tropical and** subtropical ecosystems expertise Tenestri Caribbean aquatio islands ecosystems African Asian tropical forests savannas Amazon African and coastal ecosystems basin Great Lakes and Brussels, Belgium rainforest coastal ecosystems Université Libre de Bruxelles - ULB Vrije Universiteit Brussel - VUB Madagascar Paris, France **Tropical forest** Sorbonne Université - SU Muséum National d'Histoire Naturelle - MNHN ecosystems of the SW Indian Ocean Florence, Italie Università degli Studi di Firenze - UNIFI Fr. Guyana-Amazonia Université de Guyane - UdG Fr. West Indies-Caribbean Université des Antilles - UdA Kenya Technical University of Mombasa - TUM Cameroon UNIVERSITÉ Université Université de Dschang – UDsch **ULB** LIBRE des Antilles Madagascar DE BRUXELLES Université d'Antananarivo - UNIVANTA Reunion Island Université de Dschar VRIJE UNIVERSITEIT JB Université de La Réunion - UNIRé BRUSSEL Sri Lanka University of Ruhuna - RUH SORBONNE UNIVERSITÉ

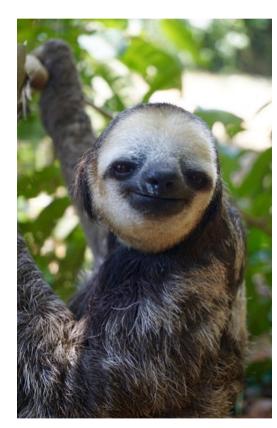
UNIVERSITÉ

Malavsia Universiti Malaysia Terengganu - UMT

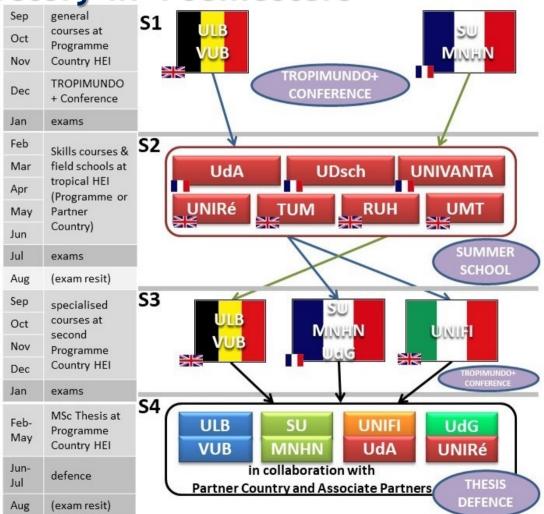
R Université de Guvane

DE LA RÉUNION

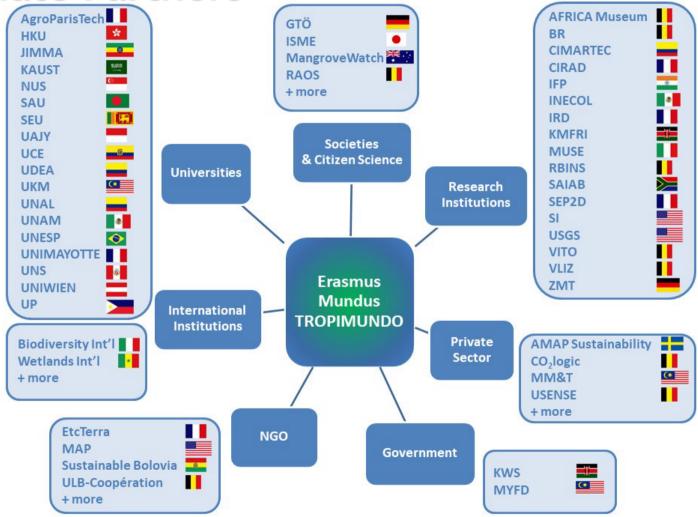
## **TROPIMUND** Trajectory in 4 semesters



Ilke Geladi



## TROPIMUND Associate Partners



## TROPIMUND Learning outcomes, skills and competences



Anaïs Bonnefond, Farid Dahdouh-Guebas, MEDIA KREATIF, Di Nitto et al. (2014)

### **TROPIMUND**

TROPIMUNDO aims at training the local scientists, conservationists, restorationists, managers and policy-makers of the future that will make a difference for the ecosystem functions, goods and services in their home countries



Farid Dahdouh-Guebas



shutterstock.com • 222947872

## **TROPIMUND**

#### **Diplomas and Certificates**

- Joint Diploma
- TROPIMUNDO Certificate
- Joint Europass Diploma Suppler
- Europass Mobility
- Europass Language Passport
- Europass CV





## TROPIMUND Decision and Execution bodies





PROUD TO SERVE THE SUSTAINABLE DEVELOPMENT GOALS





www.facebook.com/tropi.mundo.1



**o**/

www.linkedin.com/in/tropimundo

www.instagram.com/trop\_i\_mund

**General e-mail:** info@tropimundo.eu

**General Coordinator:** Farid Dahdouh-Guebas Farid.Dahdouh-Guebas@ulb.be

**TR<sup>®</sup>PIMU** 

PROUD TO SERVE THE SUSTAINABLE DEVELOPMENT GOALS





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#### Unique (International) Master programs

- 10. TROPIMUNDO
- **11. Oceans and Lakes**
- 12. IMBRSea
- 13. Sustainable Development
- 14. Nematology
- 15. Aquaculture

2 year Joint MSc Marine and Lacustrine Science and Management







- ✓ Unique combination of fresh water and marine ecosystems
- ✓ Training to become multidisciplinary scientists: biology, geology, law, policy
- ✓ Fundamental and applied
- ✓ Internships, field courses, consultancy project

#### ✓ 4 majors:

- 1. Global change impacts on ecology and biodiversity
- 2. Conservation biology and ecosystem management
- 3. Environmental impact and remediation





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- 4. Geosciences

# OCEANS & LAKES Master of Marine and Lacustrine Science and Management

#### Why?

- ✓ To become an aquatic scientist
- Management and governance (next to scientific topics)
- ✓ Practice next to theory
- North-South connection, internationalisation@home
- ✓ Peer training
- Focus on sustainable development from local to global
- ✓ Wide range of **experts** involved (NS)
- ✓ Diverse professional fields
  VLIZ, ILVO, RBINS, VMM, NIOZ, FWO,
  FNRS, WWF, DEME, De Nul, Sioen, EU,

universities, Science teachers

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#### **Present today:**

Ann Vanreusel (UGent) Noelia del Carmen Valderrama Bhraunxs (Alumna) Raisa Marie Bacasnot (Alumna)







#### Internship -In Belgium or abroad:

## ✓ Mandatory, 3-4 weeks

 Goal: to get acquainted with the professional field of an aquatic scientist (marine or lacustrine)

#### Laura Knops at **Kenya Marine and Fisheries Research Institute** – Gazi, **Kenya**:

- Mangrove planting in high wave energy areas
- Macrobenthos in seagrass meadows
- Mangrove monitoring of protected area







BYCATC

FISHIN6

GAME FISHING

ALATTING ARLAST TEATERS

✓ Summer school in south partner country

ACTIVITIES

SNORKUM

DISTURBANCE OF

COASTAL DEVELOPMENT

DOL PHIM WATCHING

MEGAFAUNA

THEREASED

- ✓ Tender about local topic
- ✓ Consultancy report
- ✓ Local experts



