



MSc in Marine and Lacustrine Science and Management



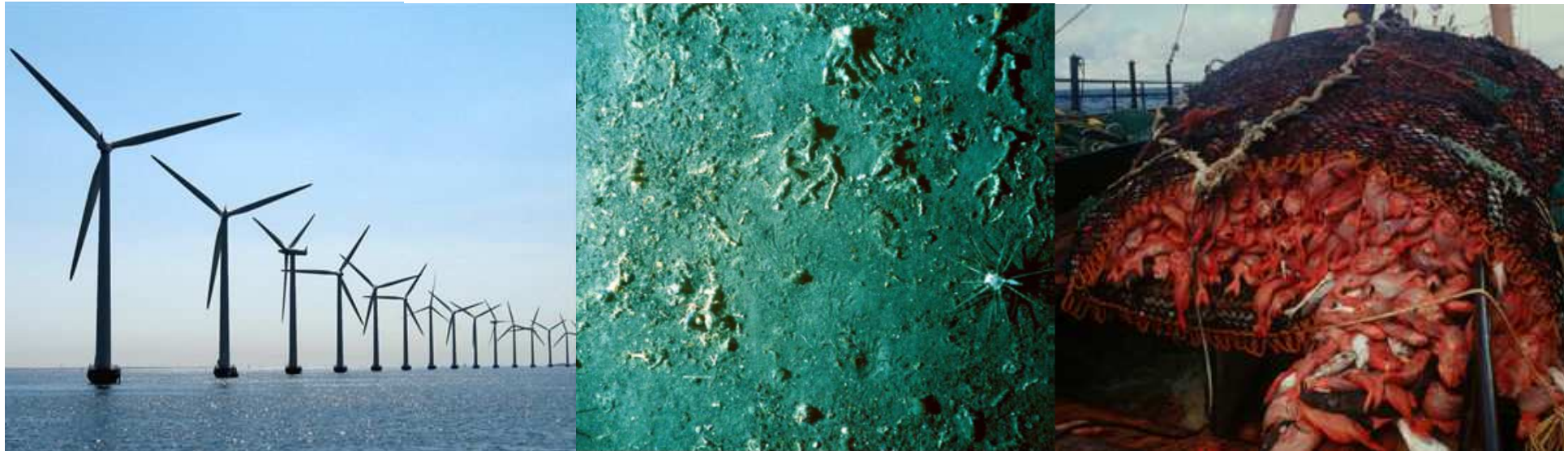
VRIJE
UNIVERSITEIT
BRUSSEL



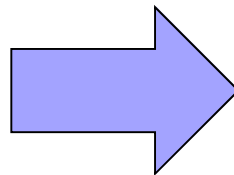
GHENT
UNIVERSITY



Universiteit
Antwerpen



- Ocean acidification
- Habitat destruction
- Sea level rise
- Polar ice retreat
- Fish stock depletion
- Aquaculture
- Aquatic pollution
- MPA



- Scientific research (universities, ILVO, RBINS, INBO,...)
- Education and outreach (VLIZ, RBINS,...)
- Policy (EU, FOD, INBO, UNEP, ISA ...)
- Industry (DeNul, DeMe,...)
- Development cooperation (VLIR,..)
- International jobs



- 2-year **interuniversity master's** programme:

- ✓ 3 universities in Flanders (Belgium)

- ✓ 1 diploma (120 ECTS)



- **Unique in Europe** through combination of disciplines:

- ✓ Providing **insight** into the complexity of life, and processes in oceans, seas, lakes, rivers and estuaries

- ✓ Offering **skills** to study and manage marine environments and lakes

- ✓ Comprising **management, governance and policy**, as well as **commercial** aspects of aquatic ecosystems & law

Strengths:

- Marine and freshwater ('lacustrine')
- Biology and geology
- Nature conservation & sustainable development
- Multidisciplinary approach
- Fundamental and applied, management-oriented
- Hands on teaching
- International (global) and development-oriented
- Expertise-based



www.oceansandlakes.be



Open to holders of a bachelor's degree in

- **biology**
- **biochemistry and biotechnology**
- **chemistry**
- **geology**
- **geography and geomatics**
- **bio-engineering science**
- **environmental sciences**

Other bachelors in science, applied science, life sciences: **equivalency** is evaluated based on scientific competences & skills.

Programme structure

A Common trunk of Core courses (33 ECTS)

Integrated Field courses (6 ECTS)

Broadening Courses (12 ECTS):
Governance and Policy in Development
and Cooperation, Internship

Monsoon school (6 ECTS)

Supporting Courses (9 ECTS): Data and
Information Management, Advanced
Applied Statistics...

Choice of one Major (24 ECTS)

**Global Change Impacts on Ecology
and Biodiversity**

**Conservation Biology and
Ecosystem Management**

**Environmental Impact and
Remediation**

**Marine and Lacustrine
Geosciences**

MASTER THESIS (30 ECTS)

Core courses (33 ECTS)

- Oceanography (4 ECTS)
- Estuarine and Coastal Systems (5 ECTS)
- River and Lake Ecology (5 ECTS)
- Limnology (5 ECTS)
- Law and Ethics on Conservation of Aquatic Systems (3 ECTS)
- In-situ and Remote Sensing Tools in Aquatic Sciences (5 ECTS)
- Environmental Modelling (3 ECTS)
- Seminars: Case Studies on Biodiversity Management (3 ECTS)
- Integrated Marine Coastal Ecology Field Course (3 ECTS)

2 Field Courses

From the courses listed below, students must obtain 6 ECTS.

- Integrated Field Course at Sea (3 ECTS)
- Integrated Limnological Field Course (3 ECTS)

Compulsary : Integrated field course coastal systems (3 ECTS)



in depth training → Major

- Global change impacts on biodiversity and Ecology
- Conservation Biology and Ecosystem Management
- Environmental Impact and Remediation
- Marine and Lacustrine geosciences

broadening → multidisciplinary approach



- biology/ecology
- geology
- biochemistry
- oceanography
- policy and management →
 - law and ethics
 - integrated coastal zone management
 - Governance and policy in development cooperation

A wide spectrum of thesis subjects

- **Modelling** the shadow effect caused by the growth of the blue mussel *Mytilus edulis* on **offshore wind farms** in the North Sea
- **Microplastic contamination** in gudgeons (*Gobio gobio*) from Flemish rivers
- **Primary Productivity and Nitrogen** : Uptake Rates in the **Subarctic and Temperate North Atlantic Ocean**
- The relationship between land-use intensity and **water quality** in crater **lakes** of Western Uganda
- Long-term (27 years) impact of an experimental **physical seafloor disturbance** on the recolonization and **recovery of deep-sea meio-benthic** communities in the Peru Basin

- Fjord **sedimentary record** of the recent and rapid retreat of Jorge Montt glacier, Chilean Patagonia
- **Detecting Marine Mammals** in the Belgian part of the North Sea using Airborne Photography and **High Resolution Satellite Imagery**
- **Mangrove** wood and mangrove carbon. Interspecific and **ecological variation in carbon content** of mangrove wood.
- **Genetic population structure** of *Seriatopora hystrix* in the Indo-Malay Archipelago
- **MPA's** – A strong **legislative** tool to reduce fishing pressures and sustain **fish stocks** in the Mediterranean?

LIMNOLOGY and OCEANOGRAPHY: METHODS

Limnol. Oceanogr.: Methods 4, 2006, 216-226
© 2006, by the American Society of Limnology and Oceanography, Inc.

A new automated setup for stable isotope analysis of dissolved organic carbon

Steven Bouillon, Michael Korntheuer
Department of Analytical and Environ

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Article

and Frank Dehairs
Universiteit Brussel, Pleinlaan 2, B-1050 Brussels, Belgium

GLOBAL BIOGEOCHEMICAL CYCLES, VOL. 22, GB2013, doi:10.1029/2007GB003052, 2008

Mangrove production and carbon sink estimates

Steven Bouillon,^{1,2} Alberto V. P.
Thorsten Dittmar,⁶ Norma
Cyril Marchand,⁹ L.
and Robert

Environmental Modelling & Software 24 (2009) 969-981

Contents lists available at ScienceDirect

Environmental Modelling & Software

journal homepage: www.elsevier.com/locate/envsoft



Design of a sampling strategy to optimally calibrate a reactive transport model: Exploring the potential for *Escherichia coli* in the Scheldt Estuary

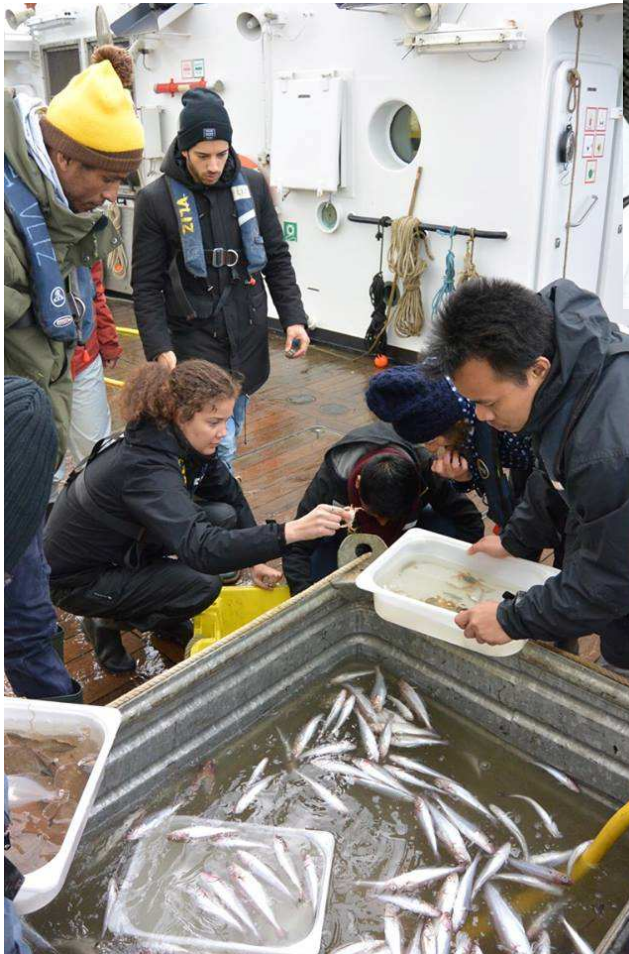
Anouk de Brauwere^{a,c,*}, Fjo De Ridder^b, Olivier Gourgue^c, Jonathan Lambrechts^c, Richard Comblen^c,
Rik Pintelon^d, Julien Passerat^e, Pierre Servais^e, Marc Elskens^a, Willy Baeyens^a, Tuomas Kärnä^c,
Benjamin de Brye^c, Eric Deleersnijder^c

Research in Oceans & Lakes





Hands on teaching





Tenders ➔ to write a consultancy report (**Monsoon school Zanzibar February 2019**)

1. Mariculture: “Is sustainable mariculture economically viable in Zanzibar?”
2. Dolphin watching: “Are dolphin watching tourist activities beneficial to the local communities of Zanzibar?”
3. Coastal waste: “Is coastal waste around Zanzibar a threat to human health or tourism?”
4. Artisanal fisheries: “What is impact of artisanal fisheries on a long term in Zanzibar?”
5. Scuba tourism: “Is scuba diving tourism beneficial to the protection of marine biodiversity of Zanzibar?”
6. Mangrove conservation and restoration: “Are mangroves safeguarded from human impact in Zanzibar?”





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Thank you for your attention!

Contact us at: oceansandlakes@vub.be

Website www.oceansandlakes.be

