

# Nathalie Hortensia ELISABETH, PhD, post doc candidate

French nationality, born in July 1982

Mariannengasse 26/13, 1090 Wien

(+43) 06509512833 [nathalie.elisabeth@univ-ag.fr](mailto:nathalie.elisabeth@univ-ag.fr)

<http://www2.univ-ag.fr/SAEmangrove/index-english.htm>

## RESEARCH EXPERIENCE

2008-11 *Tissue and Cell Plasticity in the gill filaments of coastal symbiotic bivalves Codakia orbiculata and Linga pensylvanica.* PhD, at the SAE UMR7138 Laboratory Université Antilles-Guyane. Supervised by Pr Olivier Gros and Dr Sylvie Gustave-dit- Duflo.

2008 *Cellular mechanisms of cell plasticity in the gill filaments of symbiotic model Codakia orbiculata in environmental stress.* 6-month **obligatory** internship at the SAE UMR7138 Laboratory, Université Antilles-Guyane.

2006 *Preliminary experiments for developing farming protocol for medusoid of the hydroid Clytia maccradyi.* 5-week **obligatory** internship, **prolonged** to 9 weeks, with the hydrio team of the ECOMAR Laboratory, Université de La Réunion.

*Physico-chemical survey of farming aquaria of Sciaenops ocellatus.* 6-week **voluntary** internship at the IFREMER tropical aquaculture laboratory (Martinique, FWI).

2005 *Development of a Hydroid aquarium.* 2-month **voluntary** internship with the hydrio team of the ECOMAR Laboratory, Université de La Réunion.

Scientific activities

**Voluntary** work with « Sciences Réunion », an association for scientific sensitization, with middle school pupils. (Reunion Island)

2004 *Study of the biology of Beauveria Brongnartii, a fungi parasitizing the sugar cane white worm.* 7-month **voluntary** binomial internship at the UMR Peuplements Végétaux et Bioagresseurs en Milieu Tropical, Université de La Réunion.

## EDUCATION

2006 Bachelor's Degree in Marine Biology at the Université de La Rochelle (France).

2007 1<sup>st</sup> year of Master Degree in marine biology and oceanography at the Université Aix-Marseille 2 (France).

2008 Master's Degree in tropical biodiversity, specialization in Marine Biology, with honors, at the Université Antilles-Guyane (Guadeloupe, F.W.I)

2011 PhD, Université Antilles-Guyane (Guadeloupe, F.W.I).



## KEY WORDS:

Chemoautotrophic symbiosis, bivalves, sulfur-oxidizing bacteria, FISH/CARD-FISH, immunohistochemistry, histological staining, fluorescence and confocal microscopy

## SKILLS

### *Molecular biology:*

molecular hybridization techniques (FISH and CARD-FISH)

*Histology:* Fixation, embedding/sectionning in paraffin and Steedman's wax (microtom), cryomicrotomy, resin, histological staining

### *Immunology:*

immunohistochemistry

*Proteomic:* total protein and sulfur protein assays.

Immunolocalization

*Microscopy:* Optical microscopy including Fluorescence microscopy and confocal microscopy

### *Microbiology:*

Echeischia Coli and Citrobacter sp culture/ bacterial symbiont purification

## TEACHING EXPERIENCE

2009-2011 Cell biology, evolution, histology, physiology, zoology- undergraduate courses. Université Antilles- Guyane.

## PUBLICATIONS

### Original papers

-O. Gros, N.H. Elisabeth, S.D.D. Gustave, A. Caro and N. Dubilier (2012). Plasticity of symbiont acquisition throughout the life cycle of the shallow-water tropical lucinid *Codakia orbiculata* (Mollusca: Bivalvia). *Environmental Microbiology* 14(6), 1584–1595.

-N.H Elisabeth, S.D.D Gustave and O. Gros (2012). Cell proliferation and apoptosis in gill filaments of the lucinid *Codakia orbiculata* (Mollusca: Bivalvia) during bacterial decolonization and recolonization. *Microscopy Research And Technique* 75:1136–1146.

### Oral Presentations

-N.H Elisabeth, M-N Sylvestre, S.D.D Gustave, P. Jean-Louis, T. Césaire, A. Caro, J-L Mansot and O. Gros (2011). Monitoring of sulfur-oxidizing endosymbiotic bacterial population inhabiting the tropical lucinid *Codakia orbiculata* during starvation and bacterial recruitment. ASLO aquatic science meeting, San Juan, Puerto-Rico.

-S.D.D. Gustave, N.H. Elisabeth, B. Lemauff and O. Gros (2008). Les Lucinidae tropicaux côtiers comme modèles d'étude des symbioses chimio-autotrophes en milieux réduits : Intérêt pour l'étude de la plasticité du tissu hôte et ses interactions avec les bactéries symbiotiques. Day of research at the Université Antilles-Guyane.

### Posters

-A. Caro, N.H Elisabeth, P. Got and O. Gros (2010). Effet de la carence nutritive à long terme sur les populations bactériennes endosymbiotiques hébergées par 2 bivalves tropicaux et conséquence de la remise dans le sédiment. Congrès Ecologie 2010, Montpellier, France.

-N.H Elisabeth, M-N Sylvestre, S.D.D Gustave, P. Jean-Louis, T. Césaire, A. Caro, J-L Mansot and O. Gros (2010). Effet de la carence nutritive sur la branchie du bivalve symbiotique côtier *Codakia orbiculata*. Congrès Ecologie 2010, Montpellier, France.

-N.H. Elisabeth, S.D.D. Gustave and O. Gros (2008). Cellular mechanisms underlying gill-endosymbiotic bacterial infection process within shallow water *Codakia orbiculata* (Bivalvia: Lucinidae) (Montagu, 1802). 61ème conférence annuelle du Gulf Caribbean Fisheries Institute, Gosier, Guadeloupe.

-S.D.D. Gustave, N.H. Elisabeth and O. Gros (2008). Cell interactions induced by bacterial infection processes within the lateral zone of gill filaments of the lucinid *Codakia orbiculata*. 20ème conférence annuelle de l'International Congress of Zoology, Paris, France.

**Computer skills:** web tools/ Microsoft Office and Open Office/GIMP and Image J/ Refworks.

**Language skills:**

French and Creole (native languages)/ English

**Other skills:** CPR and Driver's license

## REFEREES

**Pr Olivier GROS**

Supervisor  
UMR7138 CNRS IRD  
MNHN UPMC

Equipe « Biologie de la mangrove » Université des Antilles et de la Guyane  
97159 Pointe-à-Pitre cedex.  
GUADELOUPE

Tel : + 590 (0) 5 90 48 30 06  
/Fax + 590 (0) 5 90 48 32 81  
Email: ogros@univ-ag.fr

**Dr Audrey CARO**

collaborator  
UMR CNRS 5119  
Laboratoire Ecosystèmes  
Lagunaires cc093

Université Montpellier II  
34095 Montpellier Cedex 05  
FRANCE

tel: + 33 (0) 4 67 14 41 85  
fax: + 33 (0) 4 67 14 37  
Email: audrey.caro@univ-  
montp2.fr

**Dr Sylvie GUSTAVE-DIT-DUFLO**

Head of the department of  
biology-supervisor  
UMR7138 CNRS IRD  
MNHN UPMC

Equipe « Biologie de la mangrove » Université des Antilles et de la Guyane  
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GUADELOUPE

Tel : + 590 (0) 5 90 48 30 06  
/Fax + 590 (0) 5 90 48 32 81