

Marc LONG (PhD student)

Laboratoire des sciences de l'Environnement marin // University of Wollongong

Mobile: +33 687 972 694

e-mail: marc.florian.long@gmail.com

Date of Birth : 24/06/1991

Driving licence

Boat License (coastal license)

Keywords : *Alexandrium* ;
Harmful Algal Blooms ;
Allelopathy ; Phytoplankton
physiology; Ecotoxicology



Education and Training

2013/2015: Master degree in Marine Biological Science with honours. European Institute of the sea, University of Western Brittany, Plouzané, France

2011/2013: BSc Biology of Organisms and Populations; sandwich training with CNRS (National Centre for Scientific Research). Ranking 13/152.

University of Western Brittany (Université de Bretagne Occidentale), Brest, France

2009/2011: DUT (Technological University Degree) in Environmental Science. Ranking 3/34.

Bio-Engineering Department of the University Institute of Technology (IUT) of Brest, France

Professional experience

July-August 2015: Engineer Assistant contract with CNRS (National Centre for Scientific Research) at LEMAR (Science Laboratory of the Marine Environment), European University Institute of the sea, Plouzané, France. Supervisor: H. Hégaret.

January-May 2015: Internship (Second year of Master degree) at National Oceanic and Atmospheric Administration (NOAA), Northeast Fisheries Science Center, Milford, Connecticut, United States. New insights into *Alexandrium* spp. cytotoxicity to *Chaetoceros neogracile* and clam hemocytes. Supervisor: Dr. Gary H. Wikfors

June-July 2014: Voluntary internship at LEMAR laboratory, European University Institute of the sea. Physiologic monitoring of *Alexandrium* sp. community during a natural bloom in the bay of Brest by flow-cytometry. Supervisor: H. Hégaret.

May-October 2014: Librarian (as a student job) at the La Perouse library. Documentation centre on the sea (Ifremer/IRD/UBO), Plouzane, France.

January-February 2014: Internship (First year of Master degree) at LEMAR laboratory, European University Institute of the sea. Interactions between microplastics and phytoplankton aggregates: impact on their respective fates. Supervisors: Moriceau, B.

➔Scientific publication: "Interactions between microplastics and phytoplankton aggregates: impact on their respective fates." Long, M., Moriceau, B., Gallinari, M., Lambert, C., Huvet, A., Raffray, J., Soudant, P. (2015). *Marine Chemistry*.

June-August 2013: Visiting research program at the School of chemistry, University of Wollongong, Australia. Studying the impact of a copper on different species of microalgae by respirometry. Development of the protocol with Clarke-type electrodes.

Investigating the chemical transformation of surface functionalized silver nanoparticles along a water-sediment continuum. Synchrotron, Melbourne, Australia. Supervisor : Jolley, D.

August 2011 – May 2013: Work-and-study programme: Contract with CNRS (National Centre for Scientific Research) alternately as an Engineer Assistant at LEMAR (Science Laboratory of the Marine Environment), European University Institute of the sea, Plouzané, France. Supervisors: Soudant, P., and H. Hegaret.

2011 April-July (12 weeks) : Internship at LEMAR laboratory, European University Institute of the sea. « Study of metal deficiency, iron and copper, on the lipid composition of the diatom *Pseudo-nitzschia* sp. in AQUIL». Supervisors: P. Soudant, H. Hégarret, A. Lelong.

Professional skills

Laboratory skills:

- Phytoplankton culture
- Phytoplankton physiology: Photosynthesis efficiency (Pulse Amplitude modulated (PAM) fluorometry and Fire Fluorometer system), Respirometry (Clarke-type electrodes)
- Bivalve physiology (dissection, hemolymph analyses, pathogen infection...)
- Flow cytometry: phytoplankton or hemocyte cells, use of probes for physiological measurement (counting, complexity, lipids, chlorophyll, DNA content, viability)
- Microscopy: 3 dimensions and epifluorescent microscopy (microscope vivatome)
- Biochemical analyses/characterisation of compounds: HPLC, HPLC, GC, Phycotoxin analyses, Transparent Exopolymer saccharides quantitative analyses, lipid quantitative analyses, chlorophyll quantitative analysis
- Miscellaneous skills: Production of phytoplankton aggregates (+ characteristics analyses), work with bivalves

Field skills:

- Water sampling and measure of physicochemical parameters on the spot for the CHIVAS mission, on the boat "Albert Lucas", bay of Brest, France
- Sampling microplastic with manta trawl, plankton pump (for floating litter) and Van Veen grab (for the sediment). Work on the boat "Simon Stevin", Oostende, Belgium
- Sediment sampling for characterisation and deployment of DET probes in sediment, Wollongong, Australia

Informatic and linguistic skills:

- Usual use of computing tools: Open Office and Microsoft Office, WinMDI and Flowing Software (Flow Cytometry analyses), Pulse Amplitude Modulated (PAM) fluorometry software, R (statistics)
- French : Mother tongue
- English : fluent: 8 months working/studying overseas (Australia and US), international conferences ("MICRO 2014, the first microplastic conference", "Meiscool – Meiofauna international workshop", "Physiomar"), publication in an international journal "*Marine Chemistry*".
- Spanish : basics

Scientific communication

Publications :

- Long, M.**, Moriceau, B., Gallinari, M., Lambert, C., Huvet, A., Raffray, J., Soudant, P. (2015). Interactions between microplastics and phytoplankton aggregates: impact on their respective fates. *Marine Chemistry*.
- Zeppilli, D., Sarrazin, J., Leduc, D., Martinez Arbizu, P., Fontaneto, D., Fontanier, C., Gooday, A., Møbjerg Kristensen, R., Ivanenko, V., Sørensen, M., Vanreusel, A., Thébault, J., Mea, M., Allio, N., Andro, T., Arvigo, A., Castrec, J., Danielo, M., Foulon, V., Fumeron, R., Hermabessiere, L., Hulot, V., James, T., Langonne-Augen, R., Le Bot, T., **Long, M.**, Mahabror, D., Morel, Q., Pantalos, M., Pouplard, E., Raimondeau, L., Rio-Cabello, A., Seite, S., Traisnel, G., Urvoy, K., Van Der Stegen, T., Weyand, M., Fernandes, D. (2015). Is the meiofauna a good indicator for climate change and anthropogenic impacts ? *Marine biodiversity*: 1 - 31.
- Goncalves, O., Moutel, B., Legrand, F., **Long, M.**, Soudant, P., Legrand, J., Grizeau, D., Pruvost, J. Development of a screening procedure for the characterization of *Botryococcus braunii* strains for biofuel application
Process Biochemistry (In revision)

Oral presentations:

- Sept. 2012 Role of the benthic community in domoic acid accumulation of great scallops
Pecten maximus
Leynaert, A., Hégaret, H., Beker, B., Chatterjee, A., Lelong, A., **Long, M.***, Lavaud, R., Thébault, J., Amice, E., Chauvaud, L.
Physiomar, 2012, Santiago de Compostella, Spain
- Feb. 2013 Microplastics, an emerging threat for cultivated bivalves?
Soudant, P.* , Lambert, C., Pouvreau, S., Fabioux, C., Robert, R., Hégaret, H., Corporeau, C., Le Goïc, N., Boudry, P., **Long, M.**, Robbens, J., Huvet, A.
National Shellfisheries Association meeting, Nashville, USA
- Nov. 2013 Potential impact of microplastics on cultivated shellfish
Soudant, P.* , Lambert, C., Pouvreau, S., Fabioux, C., Robert, R., Hégaret, H., Corporeau, C., Le Goïc, N., Boudry, P., **Long, M.**, Robbens, J., Huvet, A., Sussarellu, R.
Building Marine Science Conference, Buzios, Brazil
- Jan. 2014 Can phytoplankton species impact microplastic behaviour within water column?
Long, M.*, Hégaret, H., Lambert, C., Le Goïc, N., Huvet, A., Sussarellu, R., Fabioux, C., Soudant, P.
MICRO 2014, the first microplastic conference, Brest
- Jan. 2014 Microplastics: effects on oyster physiology and reproduction
Sussarellu, R.* , Soudant, P., Lambert, C., Fabioux, C., Corporeau, C., Laot, C., Le Goïc, N., Quillien, V., Boudry, P., **Long, M.**, Mingant, C., Petton, B., Maes, T., Vethaak, D., Robbens, J., Huvet, A.
MICRO 2014, the first microplastic conference, Brest

Posters :

- Jul. 2013 Lipid composition and physiological modifications of the marine diatom *Pseudo-nitzschia delicatissima* under copper starvation
Legrand, F.* , Lelong, A., **Long, M.**, Soudant, P., Hégaret, H., Bucciarelli, E.
6th European Symposium on Plant Lipids, Bordeaux, France
- Nov. 2013 Climate change, biodiversity and ecosystem functioning, extreme environments and response to anthropogenic impacts: four ecological “hot” topics from a meiofaunal point of view. ”
Fernandes D.* , Allio N., Andro T., Arvigo A., Autret M., Bourdonnay L., Castrec J., Claireaux M., Coquille V., Danielo M., DeWever L., Durand R., Foulon V., Fumeron R., Hermabessiere L., Hulot V., James T., Langonne-Augen R., Le Bot T., **Long M.**, Mahabror D., Marchant J., Morel Q., Pantalos M., Pouplard E., Raimondeau L., Rio-Cabello A., Seite S., Toomey L., Traisnel G., Urvoy K., Van Der Stegen T., Weyand M., Thébault J., Zeppilli D.
Meioscool - Meiofauna International Workshop, Brest, France
- Jan. 2014 A Preliminary Assay to Assess Floating Litter Pollution in the Bay of Brest
Long, M.*, Langonne-augen , R., Le Bot, T., Mahabrador, D., Fabioux, C.
MICRO 2014, the first microplastic conference, Brest
- March 2015 Impact of ploidy and gametogenesis patterns on toxin accumulation in Japanese oyster *Crassostrea gigas* exposed to a natural bloom of *Alexandrium minutum*
Hermabessiere L.* , Fabioux C., Boullot F., Lambert C., **Long M.**, Le Goïc N., Lassudrie M., Soudant P., Bidault A., Gouriou J., Le Gac M., Chapelle A., Hégaret H.
Phycotox meeting, Brest, France