

Dr. Narimane DOREY

Post-doctoral Researcher at the University of La Rochelle, France (FR)

Born on the 28th of September 1986 (27 year-old), FR

Professional address

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PhD thesis available at
<https://gupea.ub.gu.se/handle/2077/32887?locale=en>

Research interests:

Global change, Ecophysiology, Marine ecology, Developmental biology, Invertebrates

Research experience

2014: Post-doc	Combined effects of ocean acidification and metallic pollutants on the development of a marine invertebrate model (<i>Paracentrotus lividus</i>)	Littoral ENvironnement et Sociétés (UMR 7266) University of La Rochelle, FR
2009-2013: PhD	Trans-life cycle impacts of ocean acidification on the green sea urchin <i>Strongylocentrotus droebachiensis</i> . <u>Advisor:</u> Dr. S. Dupont	University of Gothenburg, Fiskebäckskil, SE (www.cemeb.science.gu.se)
2009: Master thesis	Effect of ocean acidification on the calcification (incorporation of ⁴⁵ Ca) and metabolism of the common cuttlefish (<i>Sepia officinalis</i>) embryos and juveniles <u>Advisor:</u> Dr. T. Lacoue-Labarthe (7 months)	Radioecology Laboratory: International Atomic Energy Agency, UN, Monaco University of La Rochelle. European Project on Ocean Acidification (www.epoca-project.eu)
2008: Volunteer Research Assistant	Effect of elevated water temperature on the overall health of seagrass meadows <u>Advisor:</u> Dr. Catherine Collier (1 month)	School of Marine and Tropical Biology, James Cook University. Townsville, Australia
2008: Master internship	Effect of temperatures on larval development of the invasive gastropod <i>Crepidula fornicata</i> : importance of the exposure period <u>Advisor:</u> François Rigal (4 months)	Adaptation et Diversité en Milieu Marin (UMR 7144), Station Biologique de Roscoff, FR
2007: Licence internship	Identifying genes involved in the neurogenesis of the cuttlefish <i>Sepia officinalis</i> <u>Advisor:</u> Dr. Laure Bonnaud (3 months)	Biologie des Organismes Marins et Ecosystèmes (UMR 7208), Muséum National d'Histoire Naturelle, Paris, FR

Education

2009-2013:	PhD in Biology , Specializing in Marine Biology (defended on the 4th October 2013) University of Gothenburg (SE)
2007-2009:	Master Sciences , Environment and Ecology, <i>cum laude</i> Specializing in Oceanography and Marine Environments . UPMC- Paris VI (FR)
2004-2007:	Licence of Biology and Biochemistry, <i>cum laude</i> (3 rd year university degree) Specializing in Marine Biology and Ecology . University of La Rochelle (FR)
2004:	Scientific “Baccalauréat” , option in Music, <i>Distinctions</i> Specializing in Earth and Life Sciences. Lycée des Pierres-Vives (FR)

Technical skills

Laboratory cultures: Invertebrates (reproduction, early life-stages, adults) and Plants (phytoplankton, seagrasses) in controlled conditions (pH/temperature/light).

Carbonate seawater chemistry: Measurements (pH, DIC, alkalinity), Controlled manipulation, and Calculations of the system's parameters (e.g. $p\text{CO}_2$) using the package *seacarb* in *R*.

Ecophysiology: Growth, respiration (oxygen electrodes), microscopy, calcification (^{45}Ca , polarized light, fluorescent calcein), photosynthesis (diving PAM).

Biostatistics: Laws of probability, Statistical tests (parametric and non-parametric), Analysis of Variance, Regressions (linear and non-linear), Multivariate analysis (PCA). Software: *R*.

Molecular/Cellular biology: DNA extraction, PCR/RT-PCR, *in situ* hybridization, cell cultures (echinoderm PMCs).

Supervision, Teaching and outreach

Students supervision (training, daily supervision and edition of the final report)

2012: Emanuela Butera (University of Palermo, IT), Post-graduate internship (4 months). *Carry-over effects of ocean acidification on the green sea urchin (*S. droebachiensis*) development.*

2011: Pauline Lançon (Institut Universitaire de Technologie, FR), Second year of study to become technical assistant (3 months). *Effect of a broad-range of $p\text{CO}_2$ on the development of the green sea urchin *S. droebachiensis*.*

Punctual teaching

2012, 2013: International post-graduate course: *Marine Evolution under Climate Change* ([link](#)). **Organization, two 1-h lectures and 5-h practical course.**

2010: Internal post-graduate workshop: *Ocean Acidification best Practice Workshop – Carbonate water chemistry, Equilibrium, Manipulation, Measurements and Calculations.* **Organization, 3 hours of lectures and 2-h practical course.**

Outreach

2011: Interview for the program *Naturmorgon* on Swedish national radio (SR P1): *The green sea urchin – their exciting life-cycle and their future in more acidic oceans.* Aired on 2011-03-19 ([link](#)).

Awarded grants

Travel grant: 14.200 SEK [~1600€] *Adlerbertska Stipendiestiftelsen* to participate in the 3rd International Symposium on the Ocean in a High- CO_2 World. **Monterey (USA)**, Sept. 2012.

Mobility grant: 20.000 SEK [~2300€] *CeMEB* for a two-weeks' visit to Fred Wilt's lab, **Berkeley University (USA)** to learn sea urchin cell culture in Jan. 2012.

Languages - Miscellaneous

- Native **French** speaker; **English:** Fluent, knowledge of the scientific vocabulary (TOEFL.ITP: 567/660, March 2006); **Spanish:** Read, Spoken; **Swedish:** Elementary.
- **PhD-student representative** at the Department PhD-student Council (2011-2012) and of the Department at the Science Faculty PhD-student Council (2011-2012, subst. 2012-2013).
- **Gymnastic leader** for children (4 to 5 years old) in a local sport club for 3 years (2010-2012, Skaftö GOIF – SE, non-profit contribution).

Scientific publications

1. **Dorey N**, Melzner F, Martin S, Oberhänsli F, Teyssié J-L, Bustamante P, Gattuso J-P & Lacoue-Labarthe T (2013) Ocean acidification and temperature rise: effects on calcification during early development of the cuttlefish *Sepia officinalis*. *Mar Biol* **160**, 2007-22. [IF: 2.47]
 2. **Dorey N**, Lançon P, Thorndyke M & Dupont S (2013) Assessing physiological tipping point of sea urchin larvae exposed to a broad range of pH. *Glob Change Biol*, **19**, 3355–67. [IF: 6.9]
 3. Dupont S, **Dorey N**, Stumpp M, Melzner F & Thorndyke MC (2012) Long-term and trans-life-cycle effects of exposure to ocean acidification in the green sea urchin *Strongylocentrotus droebachiensis*. *Marine Biology*, **160**, 1835-43. [IF: 2.47]
 4. Stumpp M, Hu MY, Melzner F, Gutowska MA, **Dorey N**, Himmerkus N, Holtmann WC, Dupont S, Thorndyke MC & Bleich M (2012) Acidified seawater impacts sea urchin larvae pH regulatory systems relevant for calcification. *PNAS*, **109**, 18192–7. [IF: 9.74]
 5. Dupont S, **Dorey N** & Thorndyke MC (2010) What meta-analysis can tell us about vulnerability of marine biodiversity to ocean acidification? *ECSS* **89**, 182–85. [IF: 2.32]
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PhD thesis

- 2009- **PhD in Biology**, Specializing in Marine Biology - University of Gothenburg (SW)
 2013: Trans-life cycle impacts of ocean acidification on the green sea urchin *Strongylocentrotus droebachiensis*. PhD thesis available online ([link](#)). **Defended on the 4th October 2013**
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International conferences with peer-review

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| 2012 | 3 rd International Symposium on the Ocean in a High-CO ₂ World. Monterey (USA) | Dorey N, et al.. Assessing physiological tipping points in response to ocean acidification. Oral presentation. |
| 2010 | International Conference on Invertebrate Reproduction & Development. Prague (CZ) | Dorey N, et al.. Development in the brave ocean: a case study of a sea urchin. Oral presentation. |
| 2010 | 7 th European Conference on Echinoderms. Göttingen (DE) & Nordic Marine Science Conference - Stömstad (SE) | Dorey N, et al.. Living on the edge. Effects of a predicted future high-pCO ₂ level on the whole life cycle of two Nordic populations of the sea urchin <i>Strongylocentrotus droebachiensis</i> . Poster. |
| 2009 | EPOCA second annual meeting - Plymouth (UK) | Dorey N et al., Lacoue-Labarthe T (2009). Impact of ocean acidification on calcification in early life stages of the common cuttlefish, <i>Sepia officinalis</i> . Best poster winner. |