

Nathalie Morata

31 years old – Single
French nationality
Clear driving license

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EDUCATION

- 2007 **Ph.D in oceanography** “Sedimentary pigments as biomarkers of spatial and seasonal variations in the Arctic benthic-pelagic coupling and sediment processes”.
Supervisor: PE Renaud, UCONN, U.S.A.
- 2003 **University formation (DU) in Pollution and Environment.** *University Marseille II, France.*
- 2002 **Master (DEA) in Marine Environment Science,** option Biogeochemistry. *University Marseille II.*
- 2000 **Equivalent bachelor (Licence) in Earth Science.** *University of Barcelona, Spain.*

RESEARCH EXPERIENCES

- 2009 **Postdoc** in Arctic pelagic-benthic coupling. -today Effect of ocean acidification and global warming on pelagic and benthic organisms.
Supervisor: P Wassmann, U. Tromsø, Norway
- 2007 **Research assistant** Analysis of methylHg. -2006
Supervisor: W Fitzgerald, UCONN, USA
- 2006 **Research assistant** Study and analysis of -2004 SOD, CHN, pigments, nutrients, isotopes.
Supervisor: PE Renaud, UCONN, USA
- 2003 **Research associate** Hydrologic study of the 9 mo. Berre Lagoon. Analysis of nutrients, pigments, seston. Supervisor: P Picon, GIPREB, France
- 2002 **Technician** Identification of phytoplankton. 4 mo. Supervisor: B Queguiner, COM, France
- 2002 **Master II internship** Study of lipid 5 mo. composition of cold seeps chemosynthetic bivalves. Sup.: L Pinturier, TotalFina, Norway
- 2001 **Summer internship** Research work for 2 mo. valorisation of oil production water.
Supervisor: O Rambaud, TotalFinaElf, France
- 2001 **Master I internship** Study of the TEP from 2 mo. sediment traps with a new colorimetric method. Sup.: P Kerhervé, CEFREM, France
- 2000 **Summer internship** Study of the annual 3 mo. cycles of lipids contains of Arctic copepods.
Supervisor: M Fortier, U. Laval, Canada.

FIELD/CRUISE EXPERIENCES

- 2010 **ATP cruise and experiment, Svalbard** (1 mo.). Combined effects of ocean acidification and global warming on Arctic meroplankton. *Microrespiration.*
- 2010 **CONFLUX experiment, Tromsø, Norway** & (4x1 w.). Copepod and fecal pellet respiration.
2009 *Microrespiration.*
- 2009 **DARK LIFE experiment, Svalbard** (3 w.). Effects of food inputs and exposition to light on Arctic copepods in diapause, in a context of global warming. *Respiration.*
- 2009 **Perturbation experiment, Svalbard** (2 w.). Effects of acidification on calcifying organisms. *Microrespiration, calcification and dissolution.*
- 2009 **MERCLIM cruise, north Atlantic** (4 w.). Zooplankton respiration; Effect of acidification on foraminiferan. *Microrespiration, calcification and dissolution*
- 2009 **BEST cruise, Bering Sea** (3 w.). Biomarkers in sediment, water column and ice. *Collect of sediment and pigments analysis.*
- 2005 **RIBS cruise, Bahamas** (1 w.). Microbial mats and modern marine stromatolites. *Visual observation of organisms. Realization of O₂ profiles in mats.*
- 2005 **LISICOS cruises, Long Island Sound** (2x4 d.). Benthic processes. *Organization of cruises, collect of sediment and benthic animals, sediment incubation.*
- 2004 **CABANERA cruise, Western Barents Sea** (2 w.). Arctic pelagic-benthic coupling. *Collect of sediment and water column samples, sediment incubations.*
- 2004 **CASES cruises, Eastern Beaufort Sea** (2x6 w.). Arctic pelagic-benthic coupling. *Collect of sediment and water column samples, sediment incubations.*
- 2003 **GIPREB sampling cruises, Berre lagoon** (9x1 d.). *Organization of the cruises. Collect of water column and sediment samples.*

TEACHING AND OUTREACH

2003 **Realization of a children book** "La Carotte -today de Classe", translated in foreign languages. www.lacarottedeclassse.com

2003 **Many presentations** to elementary, high -today school and college students to introduce them to oceanography, Arctic sciences, and life as a young researcher

2009 **Presentations for IPY Ocean Science Days.** In direct from USCGC Healy, *Bering Sea*.

2007 **Teaching Assistant** for undergraduate class. Organization of field work and lab, assistance to the students. (Faculty: J. Kremer).

2007 **Presentation of the HPLC technique** and its use for studying phytoplankton pigments to under- and grad students (Faculty: R. Mason).

2007 **Volunteer in the Marine Mammals & Stranding Team** of the Mystic Aquarium.
2006 Rescue and assistance to stranded wild animals, sensitization of public.

2004 **Introduction of high school science teachers** to the Arctic research. *Groton, USA*.

1996 **Summer camp group leader** (French -1999 certificate: BAFA) for children (6 to 17 years) in France, Greece, Spain, Scotland, and Ireland.

AWARDS AND PROJECTS FUNDED

2010 Award from the Norwegian Research Council to attend the Oslo IPY Conference (\$1000).

2009 Award from the AOSB to attend the IPY ECR Symposium in Canada (\$800).

2007 Doctoral dissertation fellowship award (\$2000).

2006 Marine Science graduate student fund (\$1000) for studying isotopes in the sediment.

2006 Marine Science graduate student fund (\$1313) for studying diatom frustules in the sediment.

2006 Feng scholarship fund (\$1000) to attend the Arctic Frontiers conference in Norway.

2005 ASLO meeting Outstanding Student Poster.

TECHNICAL KNOWLEDGE

Microscopie: Preparation of slides with sedimentation column. Use of Reverse Phase microscopy for identification of phytoplankton and ice algae diatoms.

Chemistry: Use of microelectrode (O₂), winkler technique (O₂), Technicon (nutrients), Fluorometer and Spectrophotometer, CHN and DOC analyzer.

Chromatography: Thin Layer Chromatography (pigments), High Pressure Low Chromatography (pigments), Gas Chromatography (lipids).

Respirations: Sediment oxygen demand, microchambers (zooplankton and fecal pellets).

Perturbation experiments: Change of pH to simulate ocean acidification scenarios.

PROFESSIONAL ACTIVITIES

Reviewer for: Estuaries and Coasts
J. of Experimental Marine Biology and Ecology

Member of: Innovation Explorers by Elsevier, ASLO, ARCTOS, APECS council

Co-convener IPY Oslo Science Conference 2010

OTHER SKILLS & INTERESTS

Languages

- French (Native language)
- English and Spanish (Fluent)
- Catalan and Norwegian (Beginner)

Computing

Office, Adobe CS, Sigma, Surfer, Chemtax, R.

Scuba diving AAUS Scientific Diver, NAUI Master Diver, PADI ice diver.

Theatre and Music

REFERENCES

Paul E. Renaud

✉ Akvaplan-niva, N-9296 Tromsø, Norway
@ paul.renaud@akvaplan.niva.no

William F. Fitzgerald

✉ UCONN, Groton CT 06340, USA
@ william.fitzgerald@uconn.edu

Paul Wassmann

✉ University of Tromsø, N-9036 Tromsø, Norway
@ paul.wassmann@uit.no

PUBLICATIONS AND PRESENTATIONS

* indicates the presenter

Peer reviewed articles:

Renaud PE, A Riedel, C Michel, **N Morata**, M Gosselin, T Juul Pedersen, A Chiuchiolo (2007), Seasonal variation in benthic community oxygen demand: a response to an ice algal bloom in the Beaufort Sea, Canadian Arctic? *Journal of Marine Systems* 67:1-12

Renaud PE, **N Morata**, J Bowie, WG Ambrose, A Chiuchiolo (2007), Carbon cycling in the eastern Beaufort Sea: spatial patterns of sediment oxygen demand and impacts of community structure. *Journal of Experimental Marine Biology and Ecology* 249:248-260

Morata N and PE Renaud (2008), Sedimentary pigments in the western Barents Sea: a reflection of pelagic-benthic coupling? *Deep-Sea Research II: special issue on CABANERA* 55:2381-2389

Renaud PE, **N Morata**, ML Carroll, SG Denisenko, M Reigstad (2008), Benthic-pelagic coupling in the western Barents Sea: Processes and time scales. *Deep-Sea Research II: special issue on CABANERA* 55:2372-2380

Morata N, PE Renaud, S Brugel, K A Hobson, BJ Johnson (2008), Pelagic-benthic coupling of the eastern Beaufort Sea revealed by sedimentary biomarkers. *Marine Ecology-Progress Series* 371:47-63

Aitken AE, K Conlan, PE Renaud, E Hendrycks, C McClelland, P Archambault, M Cusson, **N Morata** (2009), The Benthic Environment. In: On Thin Ice a synthesis of the Canadian Arctic Shelf Exchange Study (CASES) Fortier L, Barber D, Michaud J (eds). *Aboriginal Issues Press* 159-199

Article submitted:

Morata N, M Poulin, P.E. Renaud. A multiple biomarker approach to track the fate of an ice algal bloom. *Submitted to Polar Biology*

Article in preparation:

Morata N and C Manno (in prep) Impact of ocean acidification on the metabolism of calcifying planktonic organisms

Manno C, **N Morata**, R Bellerby (in prep) Effect of Ocean Acidification on Arctic calcifying organisms

Oral presentations:

Morata N*, PE Renaud. Benthic-pelagic coupling and carbon cycling in polar seas. *ICES, Groton, Connecticut, USA, May 2004*

Morata N*. Oceanography, studying the Arctic food web. *Animal Kingdom Career Day, East Lyme, Connecticut, USA, March 19, 2005*

Renaud PE*, **N Morata**, J Bowie. Spatial patterns in sediment oxygen demand on the eastern Beaufort shelf: effects of pelagic processes and benthic community structure. *CASES 2005-2006 general workshop, Winnipeg, Canada, February 13-16, 2006*

Renaud PE*, **N Morata**. Benthic patterns and processes II. *CABANERA workshop, Tromsø, April 2006*

Morata N*. Sedimentary pigments in the Arctic Ocean. *UCONN seminar, department of Marine Sciences, Groton, December 6th 2006*

Renaud PE*, **N Morata**, ML Carroll, SG Denisenko, M Reigstad. Pelagic-benthic coupling in the Western Barents Sea: Processes and time scales. *Arctic Frontiers, Tromsø, Norway, January 2007*

Renaud PE*, **N Morata**, ML Carroll, SG Denisenko, M Reigstad. Pelagic-benthic coupling in the Western Barents Sea: Processes and time scales. *Econorth, Tromsø, Norway, March 2007*

Maung ES*, **N Morata**, PE Renaud, RB Whitlatch. The role of seasonal hypoxia on the dynamics of the benthos in Western Long Island Sound. *Benthic Ecology Meeting, Quebec, Canada, March 2007*

Morata N*, PE Renaud. Sedimentary pigments as biomarkers of spatial and seasonal variations in the Beaufort Sea pelagic-benthic coupling. *CASES General Meeting, Quebec, Canada, April 29-May 2nd 2007*

Renaud PE*, **N Morata**. Pelagic-benthic coupling in the Eastern Beaufort Sea. *CASES General Meeting, Quebec, Canada, April 29-May 2nd 2007*

A Trives, R Gradinger, **N Morata N***. En direct de la mer de Bering. *IPY Ocean Science Days, Radioconference with Paris, France, March 20, 2009*

Cooper L, A Trives, R Gradinger, **N Morata N***. From the Bering Sea. *IPY Ocean Science Days, Radioconferences with Massachusetts, Maryland and Texas, USA, March 25, 29, 30 2009*

Morata N*. Sedimentary pigments in the Arctic Ocean. *USCGC Healy seminar series, USA, March 27, 2009*

Morata N*. Pelagic-benthic coupling: reflection from sediment surface and benthos. *CONFLUX Meeting, Motovun, Croatia, October 2009*

Morata N*. Pelagic supplies to the benthos. *1st SAARP seminar, Tromsø, Norway, November 2009*

Morata N*. Variations in pelagic-benthic coupling of the Barents and Beaufort seas, Arctic, revealed by sedimentary pigments. *APECS workshop, Victoria, Canada, December 2009*

Morata N*, M Poulin, P.E. Renaud, Does an input of ice algal phytodetritus to the sea floor automatically lead to an increase in sedimentary pigments? *ArcticNet meeting, Victoria, Canada, December 2009*.

Manno C*, **N Morata**, R Bellerby. Impact Effect of high pCO₂ on calcifying organisms: different responses at different life stages? *International IPY Oslo Science Conference, Oslo, Norway, June 2010*

Morata N*, JP Laclau. La carotte de classe. *International IPY Oslo Science Conference, Oslo, Norway, June 2010*

Poster presentations:

Morata N* and JP Laclau. La carotte de classe. *CASES 2004 workshop, Montreal, Canada, November 2004*

Morata N*, PE Renaud, A Riedel, M Gosselin, C Michel and A Chiuchiolo. Rapid response of the benthic community to an ice algal bloom in the Beaufort Sea, Canadian Arctic. *Benthic Ecology Meeting, Williamsburg, Virginia, USA, April 6-10, 2005*

Morata N*, PE Renaud, A Riedel, M Gosselin, C Michel and A Chiuchiolo. Rapid response of the benthic community to an ice algal bloom in the Beaufort Sea, Canadian Arctic. *ASLO summer meeting, Santiago de Compostela, Spain, June 19-24, 2005 **Outstanding Student Poster Award***

Morata N*, ES Maung, CA Loglisci, CV Manalo, DC Bennett, E Miller, L Miranda, G McCardell, BA Costas and D Aurin. Student participation in LISICOS, the Long Island Sound Integrated Coastal Ocean Observing System. *Ocean Science Meeting, Honolulu, Hawaii, USA, February 20-24, 2006*

Morata N*, PE Renaud, A Riedel, M Gosselin, C Michel and A Chiuchiolo. Rapid response of the benthic community to an ice algal bloom in the Beaufort Sea, Canadian Arctic. *CASES 2005-2006 general workshop, Winnipeg, Canada, February 13-16, 2006*

Renaud PE*, **N Morata**, and J Bowie. Spatial patterns in sediment oxygen demand on the eastern Beaufort shelf: effects of pelagic processes and benthic community structure. *CASES 2005-2006 general workshop, Winnipeg, Canada, February 13-16, 2006*

Maung ES*, **N Morata**, PE Renaud and RB Whitlatch. The role of the benthos on seasonal hypoxia in the Long Island Sound. *Benthic Ecology Meeting, Quebec, Canada, March 8-12, 2006*

Renaud PE, **N Morata***, and J Bowie. Spatial patterns in sediment oxygen demand on the eastern Beaufort shelf: effects of pelagic processes and benthic community structure. *Benthic Ecology Meeting, Quebec, Canada, March 8-12, 2006*

Morata N*. Sedimentary pigments as biomarkers of spatial and seasonal variations in the Beaufort Sea benthic-pelagic coupling. *Feng Colloquium, Groton, Connecticut, USA, May 11, 2006*

Morata N*, ES Maung, CA Loglisci, CV Manalo, DC Bennett, E Miller, L Miranda, G McCardell, BA Costas and D Aurin. Student participation in LISICOS, the Long Island Sound Integrated Coastal Ocean Observing System. *Marine Sciences Celebration, Groton, Connecticut, USA, June 15, 2006*

Balcom PH*, WF Fitzgerald, JM Godfrey, GA Grenier, CG Cooper, DR Cohen, J O'Donnell, **N Morata** and DC Bennett. Spatial and Temporal Variability in Sediment Oxygen Demand in Long Island Sound. *Long Island Sound conference, USA, October 2006*

Morata N*, PE Renaud. Sedimentary pigments in the Barents Sea: Sources and distributions. *Arctic Frontiers, Tromsø, January 2007*

Morata N*, PE Renaud. Sedimentary pigments in the Barents Sea: Sources and distributions. *Polar Marine Science Gordon Research Conference, Ventura, USA, March 25-30, 2007*

Morata N*, PE Renaud. Sedimentary pigments as biomarkers of spatial and seasonal variations in the Beaufort Sea pelagic-benthic coupling. *CASES General Meeting, Quebec, Canada, April 29-May 2nd 2007*.

Morata N*, Renaud PE, Brugel S, Hobson KA, Johnson BJ. Spatial and seasonal variations in the pelagic-benthic coupling of the southeastern Beaufort Sea revealed by sedimentary biomarkers. *Arctic Frontiers, Tromsø, Norway, January 2008*

Morata N*. Variations in pelagic-benthic coupling of the Barents and Beaufort seas, Arctic, revealed by sedimentary pigments. *Arctic Change, Québec, December 2008*

Morata N*. Variations in pelagic-benthic coupling of the Barents and Beaufort seas, Arctic, revealed by sedimentary pigments. *Arctic Frontiers, Tromsø, Norway, January 2009*

Morata N*, M Poulin, P.E. Renaud. A multiple biomarker approach to track the fate of an ice algal bloom. *Arctic Frontiers, Tromsø, Norway, January 2010*

Manno C*, **N Morata**, R Bellerby Effect of the Ocean Acidification on the arctic calcifying organisms. *Arctic Frontiers, Tromsø, Norway, January 2010*

Morata N*, M Poulin, P.E. Renaud. A multiple biomarker approach to track the fate of an ice algal bloom. *International Symposium on Sea Ice, Tromsø, Norway, June 2010*

Morata N*, M Poulin, P.E. Renaud. A multiple biomarker approach to track the fate of an ice algal bloom. *International IPY Oslo Science Conference, Oslo, Norway, June 2010*

N Morata*, Manno C. Impact of ocean acidification on calcifying planktonic organisms. *International IPY Oslo Science Conference, Oslo, Norway, June 2010*