

Cécile Élise Mioni, Ph.D.

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EDUCATION

- 2001 – 2004 **Ph.D. Microbiology.**
University of Tennessee, Knoxville, TN.
“Using a bioluminescent bacterial bioreporter to assess iron bioavailability in the Oceans”.
Advisor : Dr. Steven W. Wilhelm
- 2000 **M.S. Biological Oceanography & Marine Environment, cum laude.**
Université Pierre et Marie Curie, Paris (France).
“Responses of the diatom *Thalassiosira oceanica* to Iron limitation” (in French).
Advisors: Pr. Paul Tréguer and Dr. Stéphane Blain
- 1999 **Maîtrise Biology of Populations & Ecosystems, magna cum laude, Valedictorian (rank 1/83).**
European Institute of Marine Studies – Université de Bretagne Occidentale, Plouzané (France).
“Trends of abundance indices for demersal fish species of the Guinea’s waters and the relationship with their catches” (in French).
Advisor: Dr. Eric Morize
- 1998 **B.S. General Biology & Earth Sciences, magna cum laude, Salutatorian (rank 2/140).**
Université de Bordeaux I, Talence (France).

RESEARCH INTERESTS

Biological Oceanography: Microbial ecology • Plankton community structure & function • Harmful & toxic algae •
Biological-chemical Interactions: Effect of macronutrients & trace metals bioavailability on microbial community structure
& function • Effect of chemical drivers on plankton dynamics & toxicity •
Biological-physical Interactions: Effect of hydrodynamics, light & turbidity on plankton dynamics and toxicity •
Mathematical Biology: Linkages of biological processes across temporal and spatial scales • Modeling •
Methodology: Bioluminescent reporter technology • Temporal & Spatial Monitoring •

PROFESSIONAL EXPERIENCE

- Sept. 2008 – present *Postdoctoral fellow/ Postdoctoral scholar*, University of California, Santa Cruz.
- Aug. 2007 – Aug. 2008 *Postdoctoral scholar*, University of California, Santa Cruz.
- Jan. – Aug. 2007 *Adjunct faculty*, Science division, Lane Community College, Eugene, OR.
- Aug. – Oct. 2006 *Research assistant*, Department of Oceanography, The University of Hawaii, Manoa.
- Jan. – May 2006 *Processing of my Green Card application* - not authorized to work during this time.
- 2001 – 2005 *Research and teaching assistant*, Department of Microbiology and Center for Environmental Biotechnology, The University of Tennessee, Knoxville, TN.
- 2001 (Spring) *Research Assistant*, Observatoire Midi-Pyrénées (LEGOS lab), Toulouse (France).
- 2000 (Summer) *Visiting Scientist*, Geosciences department, Princeton University, Princeton NJ.
- 2000 *Research assistant*, European Institute of Marine Studies, Plouzané (France).
- 1998–1999 *Research assistant*, Institut de Recherche pour le Développement, Plouzané (France).
- 1998 (Summer) *Trainee*, Laboratory of Biological Oceanography, Arcachon (France).

HONORS AND ACADEMIC AWARDS

- 2009 Early Career Travel Award, ASLO 2009 Aquatic Sciences Meeting.
- 2008 CALFED postdoctoral fellowship recipient.
- 2008 Poster selected for oral presentation. Gordon Research Conference Marine Natural Products, Ventura, CA
- 2005 DIALOG VII symposium participant. DISL, Mobile, AL.
- 2004, 2005 University of Tennessee Travel Award and Graduate Student Senate Travel Awards.
- 2003 Daniel Jouvance international research Award “Recherches sur le plancton marin 2003”.
- 2003 Ryan Kelley Memorial scholarship – International Women’s Fishing Association.
- 2001 – 2003 Center for Environmental Biotechnology – Center of Excellence Graduate Fellowships.
- 2000 M.S., *cum laude*. Université Pierre et Marie Curie, Paris (France).
- 1999 – 2000 “Ministère de la Recherche et de l’Éducation” Fellowship.
- 1999 Maîtrise, *magna cum laude*, Valedictorian (rank 1/83). European Institute of Marine Studies.
- 1998 B.S., *magna cum laude*, Salutatorian (rank 2/140). University of Bordeaux I, France.

FUNDING AWARDS

- 2009 Sacramento County Sanitation District fellowship (\$23,211)
2008 SEAGRANT/CALFED postdoctoral fellowship (\$164,620)
2003 Daniel Jouvance international research Award "Recherches sur le plancton marin 2003" (\$3,000)
2003 Ryan Kelley Memorial scholarship – International Women's Fishing Association.
2001 – 2003 Center for Environmental Biotechnology – Center of Excellence Graduate Fellowships.
1999 – 2000 "Ministère de la Recherche et de l'Éducation" Fellowship.

TEACHING ASSIGNMENTS

- 2007 *Instructor.* Lane Community College (Eugene, OR). General Biology 101J: "Unseen Life on Earth" telecourse.
2001 – 2004 *Teaching Assistant.* The University of Tennessee (Knoxville). Introduction to Microbiology (Micro 210) laboratory courses.
2002 (Spring) *Guest Lecturer.* The University of Tennessee (Knoxville). Oceanography 446: Carbon cycle.

MENTORING EXPERIENCE

- 2007 – present Navid Adnani & Christopher Rundell (undergraduate research assistants, UCSC): Microbiology techniques
2005 Margaret Henke (summer project, UTK): Bioreporter & trace metal clean techniques
2003 Sarah M. Handy (research assistant, UTK): Bioreporter & trace metal clean techniques
2003 Matt Smith (undergraduate research assistant, UTK): Molecular biology techniques
2002 Bruce Applegate Jr. (summer project, Purdue): Bioreporter & trace metal clean techniques

SERVICES

- 2009 *Volunteer poster judge* – ASLO Aquatic Sciences meeting.
2007 – present *Volunteer Mentor* – ASM Science Educator Network & ASM Minority Mentoring Program
2006 *Volunteer* – ASLO/TOS/AGU Ocean Sciences Meeting
2004 *Student Volunteer* – ASLO/TOS Ocean Research Conference (Audiovisual).
2003 – present *Reviewer for Professional Journals*: Limnology and Oceanography, Deep Sea Research II, Aquatic Microbial Ecology, Environmental Science & Technology

PROFESSIONAL AFFILIATIONS

- 2008 – present Scientists without borders
2005 – present American Geophysical Union.
2005 – present American Society for Microbiology.
2005 – present ANDÈS (Association Nationale des Docteurs ès Sciences).
2004 – present The Oceanography Society.
2001 – present American Society of Limnology and Oceanography.

FIELD RESEARCH PARTICIPATION (since Fall 2001)

- 2008 – present Monthly cruises in the San Francisco Bay and Delta on board of the R/V *Polaris* (USGS), R/V *Endeavor* (DWR) and R/V *San Carlos* (DWR).
03/21/09 – 04/09/09 R/V *Polarstern*, ANT XXV/4 cruise in Drake Passage (*volunteer participant*).
08/15/06 – 10/13/06 R/V *Kilo Moana*, Fe in Equatorial Pacific Undercurrent (Honolulu, HI – Rabaul, PNG).
03/08/06 – 03/12/06 R/V *Kilo Moana*, HOT-179 cruise, ALOHA station (*volunteer participant*).
06/22/03 – 08/05/03 R/V *Kilo Moana*, NE Pacific Ocean and Bering Sea (Seattle, WA – Dutch Harbor, AK).
09/23/02 – 10/19/02 R/V *Nathaniel B. Palmer*, Eastern Pacific (Punta Arenas, Chile – San Diego, CA).

PUBLICATIONS

- **Published (available on my website: www.cecilemioni.com)**

Milligan, A.J., **Mioni, C.E.**, and F.M.M. Morel (2009), Response of cell surface pH to pCO₂ and iron limitation in the marine diatom *Thalassiosira weissflogii*. *Marine Chemistry*, 114: 31 – 36.

Mioni, C.E., Palkuski, J.D., Poorvin, L., Baldwin, A., Twiss, M.R., Jeffrey, W.H., and S.W. Wilhelm (2007), Variability in the in situ bioavailability of Fe to bacterioplankton communities in the eastern subtropical Pacific Ocean, *Aquatic Microbial Ecology*, 46: 239 – 251.

Mioni, C.E., Poorvin, L., and S.W. Wilhelm (2005), Virus- and siderophore- mediated transfer of available Fe between heterotrophic bacteria : characterization using an Fe-specific bioreporter. *Aquatic Microbial Ecology*, 41: 233-245.

- Mioni, C.E.**, Handy, S.M.*, Elwood, M.J., Twiss, M.R., McKay, R.M.L., Boyd, P.W., and S.W. Wilhelm (2005), Tracking changes in bioavailable Fe within high-nitrate low-chlorophyll oceanic waters: A first estimate using a heterotrophic bacterial bioreporter, *Global Biogeochemical Cycles*, *Invited article*, 19 (4), GB4S25, doi:10.1029/2005GB002476.
- McKay, R.M.L., Wilhelm, S.W., Hall, J., Hutchins, D.A., Al-Rshaidat, M.M.D., **Mioni, C.E.**, Pickmere, S., Porta, D., and P.W. Boyd (2005), Impact of phytoplankton on the biogeochemical cycling of iron in subantarctic waters southeast of New Zealand during FeCycle, *Global Biogeochemical Cycles*, *Invited article*, 19 (4), GB4S24, doi:10.1029/2005GB002482.
- Boyd, P. W., Law, C. S., Hutchins, D. A., Abraham, E. R., Croot, P. L., Ellwood, M., Frew, R. D., Hadfield, M., Hall, J., Handy, S.*, Hare, C., Higgins, J., Hill, P., Hunter, K. A., LeBlanc, K., Maldonado, M. T., McKay, R. M., **Mioni, C.**, Oliver, M., Pickmere, S., Pinkerton, M., Safi, K., Sander, S., Sanudo-Wilhelmy, S. A., Smith, M., Strzepek, R., Tovar-Sanchez, A.; Wilhelm, S. W. (2005), FeCycle: Attempting an iron biogeochemical budget from a mesoscale SF₆ tracer experiment in unperturbed low iron waters, *Global Biogeochemical Cycles*, 19 (4), GB4S20, doi:10.1029/2005GB002494.
- Mioni, C.E.**, Howard, A. M.*, DeBruyn, J.M., Bright, N.G., Applegate, B.M., and S.W. Wilhelm (2003), Characterization and preliminary field trials of a bioluminescent bacterial reporter of iron bioavailability. *Marine Chemistry*, *Invited article*, 83: 31-46.
- **Submitted – In Preparation**
- Jonhson, Z.I., Shyam, R., Ritchie, A.E., Lin, Y., **Mioni, C.E.**, Lance, V.P., Murray, J., Webb, E., and Zinser, E. (2009) The Effects of iron- and light- limitation on phytoplankton communities of deep chlorophyll maxima of the Western Pacific Ocean, *Limnology & Oceanography* (submit).
- Mioni, C.E.**, Fones, G.R., Saito, M., and S.W. Wilhelm (2005), Assessment of iron bioavailability in the subarctic Pacific Ocean during the summer of 2003 (*in prep.*).

MEETINGS, PRESENTATIONS & SEMINARS

- Mioni, C.E.** and A. Paytan 2009. Environmental controls on the distribution of harmful algae and their toxins in San Francisco Estuary. Interagency Ecological Program – “Monitoring & Food Web” workshop. Sacramento, CA, June 2009 (*invited*).
- Mioni, C.E.** and A. Paytan, A. 2009. Environmental controls on the distribution of harmful algae and their toxins in San Francisco Bay, CA. ASLO Aquatic Sciences meeting Nice (France), January 2009 (oral).
- Adnani, N.X.*, **Mioni, C.E.**, Rundell, C.D., and R.G. Linington. High-Throughput Screening and Chemical Profiling of Marine Bacterial Isolates for Drug Discovery. ACS undergraduate symposium, May 2008 (poster).
- Rundell, C.D.*, **Mioni, C.E.**, Adnani, N.X., and R.G. Linington. Exploring the Great Oceans and Drug Discovery: Extraction Methods of Microbial Marine Natural Products for Novel Therapeutic Agents Against Neglected Infectious Diseases. ACS undergraduate symposium, May 2008 (poster).
- Mioni, C.E.**, and R.G. Linington. Bacterial warfare and peace talk: cellular interaction and secondary metabolite biosynthesis. Gordon Research Conference – Marine Natural Products, Ventura, CA, Feb. 2008 (poster, *invited*).
- Shyam, R., **Mioni, C.E.**, Ritchie, A. E., Lai, J., Johnson, Z. I. Iron/Light colimitation in the deep chlorophyll maximum in the Western Pacific Ocean. ASLO Ocean Sciences meeting Orlando, FL, March 2008 (poster).
- Mioni, C.E.** From Siderophores to Antibiotics: Importance of secondary metabolites as mediators of microbial community structure and function. Santa Cruz Archae and Bacteria Society, University of California Santa Cruz, CA, Oct. 2007.
- Mioni, C.E.** Amazing microbes: Survival, resistance, and communication in the sea. Biological Oceanography Seminar, University of Washington, Seattle, WA, June 2007 (*invited*).
- Mioni, C.E.** Eukaryotic Microbes: The Protists. Oregon State University, Corvallis, OR, May 2007 (*invited*).
- Mioni, C.E.** *Let There be Light* on Iron Bioavailability in The Subarctic Pacific Ocean. DIALOG VII, Dauphin Island Sea Laboratory, AL, Dec. 2005 (*invited*).
- Mioni, C.E.**, Poorvin, L., and S.W. Wilhelm. Bioluminescent bacterial reporters: a tool of biological & chemical relevance to estimate Fe bioavailability in aquatic systems. ASLO Ocean Research conference, Salt Lake City, UT, Feb. 2005.
- Poorvin, L., **Mioni, C.E.**, Sander, S., and S.W. Wilhelm. Characterization and bioavailability of iron released by viral lysis of marine plankton. ASLO Ocean Research conference, Salt Lake City, UT, Feb. 2005.
- Mioni, C.E.**, Handy, S.M.*, Twiss, M.R., Frew, R.D., Jeffrey, W.H., Boyd, P.W., and S.W. Wilhelm. Deployment of a heterotrophic bioluminescent bioreporter to estimate the bioavailability of iron in seawater. ASLO/TOS Ocean research conference, Honolulu, HI, Feb. 2004 (*invited*).

- Wilhelm, S. W., **Mioni, C. E.**, Twiss, M. R., McKay R. M., and C. G. Trick. Resolving iron availability in Lake Erie. International Association of Great Lakes Researchers, Chicago, IL, June 2003 (*invited*).
- Applegate, B.M. Jr.*, Bright, N.G., **Mioni, C.E.**, Husseiny, S.M., Wilhelm, S.W, and B.M. Applegate Sr. Development of a bioluminescence based assay to evaluate the efficacy of lactoferrin as a bacteriostatic agent. Annual Meeting of the Institute of Food Technologists, Chicago, IL, July 2003.
- Mioni, C.E.**, Howard, A. M.*, DeBruyn, J.M., Bright, N.G., Applegate, B.M., and S.W.W. Wilhelm. Characterization and preliminary field trials of a bioluminescent bacterial reporter of iron bioavailability. AGU/ASLO Ocean Sciences Meeting, Honolulu, HI, Feb. 2002.
- Garçon, V., Thouron, D., Philippon, X., Vuillemin, R., **C. Mioni**. ANAIS: Autonomous Nutrients Analyzer *In Situ*. Gordon Research Conference, Tilton, NH, Aug. 2001 (poster).
- Garçon, V., Thouron, D., Philippon, X., Vuillemin, R., **C. Mioni**. ANAIS: Autonomous Nutrients Analyzer *In Situ*. Gordon Research Conference, Tilton, NH, Aug. 2001 (poster).
- Milligan, A.J., **Mioni, C.E.**, and F.M.M. Morel. The response of carbon metabolism to iron deficiency in the marine diatom *Thalassiosira weissflogii*. ASLO meeting, Albuquerque, NM, Feb. 2001.
- * *mentored research assistants and undergraduate collaborators.*