

DEBORAH L. ROBERTSON

Clark University
Biology Department
950 Main Street
Worcester, MA 01610
DebRobertson@clarku.edu (508) 793-7515

EDUCATION

<i>The University of Chicago</i>	Chicago, IL
Ph.D. Molecular Genetics and Cell Biology	1997
<i>California State University, Long Beach</i>	Long Beach, CA
M.S. Biology	1988
<i>Kalamazoo College</i>	Kalamazoo, MI
B.A. Biology	1981

POSITIONS HELD

Associate Professor of Biology, Clark University	2006-present
Assistant Professor of Biology, Clark University	2000- 2006
Faculty Advisor, REU Program, Cornell University, Shoals Marine Laboratory	2001, 2002
Lecturer, Cornell University, Shoals Marine Laboratory	1999- 2001
National Research Service Award, Post-doctoral Fellow, Harvard University	1997-2000

FELLOWSHIPS AND SCHOLARSHIPS

NRSA-NIH Post-doctoral Fellow, Harvard University	1997-2000
E.H. Myers and E.M. Myers Oceanographic and Marine Biology Trust.	1991, 1992
Graduate Fellowship Program for Under Represented and Minority Students.	1986
Women's League of Long Beach Scholarship.	1986

ACADEMIC HONORS

<i>Outstanding Teacher Award.</i> Clark University	2005
<i>Hodgkins Junior Faculty Award.</i> Clark University	2003
<i>Harold C. Bold Award</i> (Honorable Mention). Phycological Society of America.	1995
<i>Outstanding Student Presentation.</i> Western Society of Naturalists Annual Meeting.	1994
<i>Kenneth Johnson Outstanding Thesis Award.</i> California State University, Long Beach	1989
<i>Graduate Dean's List of Artists and Scholars.</i> California State University, Long Beach	1988
<i>Southern California Edison Award for Outstanding Academic Performance.</i>	1986

SCHOLARLY AND CREATIVE ACTIVITY

GRANTS

Robertson, D.L. May 2007. REU Supplement for CAREER: Nitrogen Assimilation in Marine Algae: Evolution, Physiology, and Educational Opportunities. National Science Foundation. (Funded: \$6,000 12 mos)

Robertson, D.L. June 2006. REU Supplement for CAREER: Nitrogen Assimilation in Marine Algae: Evolution, Physiology, and Educational Opportunities. National Science Foundation. (Funded: \$6,000 12 mos)

Foster, S.A., Livdahl, T., Robertson, D.L., and Hibbett, D.S. (co-directors). January 2006. Complementary Curricular Networks: Tools to Enhance Undergraduate Biology Education. (Funded: \$300,000)

- Robertson, D.L. June 2005. REU Supplement for CAREER: Nitrogen Assimilation in Marine Algae: Evolution, Physiology, and Educational Opportunities. National Science Foundation. (Funded: \$11,340 12 mos)
- Livdahl, T. (PI) and Robertson, D.L. (Co-PI). June 2005. Ecology of large and small scale mosquito invasions. NIH, Academic Research Enhancement Award (Funded: \$216, 900, 36 mos)
- Robertson, D.L. March 2003. CAREER: Nitrogen Assimilation in Marine Algae: Evolution, Physiology, and Educational Opportunities. National Science Foundation. (Funded: \$541,433, 60 mos).
- Robertson, D.L. July 1997. Translational regulation of a circadian expressed protein. Individual National Research Service Award, National Institutes of Health. (Funded: \$87,168, 36 mos.)

MANUSCRIPTS IN REVIEW

- Brown, K.L, Twing, K*, and D.L. Robertson. Steps towards unraveling the regulation of nitrogen assimilation in the marine diatom *Thalassiosira pseudonana* (Bacillariophyceae): variations in mRNA levels of five key nitrogen-assimilating enzymes in response to environmental cues. In review, Journal of Phycology.

MANUSCRIPTS IN PREPARATION

- Robertson, D.L. M. Takabayashi, and F. Wilkerson. Environmental samples from the Sargasso Sea reveal an unexpected diversity in the glutamine synthetase gene family. To be submitted to Applied and Environmental Microbiology.
- Tartar, A., Brown, K.E.*, S. Ghoshroy, and D.L. Robertson. Phylogenetic analyses of GSIII and GSII: Evidence for a shared evolutionary history among heterokonts and haptophytes? To be submitted to the Journal of Phycology.
- Brown, K.L., E. Zadykowicz, and D.L. Robertson. Evolution and expression of NAD(P)H- and Fd-GOGAT in marine diatoms: something old, something new, something borrowed. To be submitted to Eukaryotic Cell.

PUBLICATIONS

- Banerjee, G., D.L. Robertson, T. Leonard. Hydrophobins Sc3 and Sc4 gene expression in mounds, fruiting bodies and vegetative hyphae of *Schizophyllum commune*. Accepted, Molecular Microbiology.
- Robertson, D.L. and A. Tartar. 2006. Evolution of glutamine synthetase in heterokonts: evidence for endosymbiotic gene transfer and the early evolution of photosynthesis. **Mol. Biol. Evol.** 23(5):1048-1055.
- Takabayashi, M. F. Wilkerson, and D. Robertson. 2005 Response of glutamine synthetase gene transcription and enzyme activity to external nitrogen sources in the diatom *Skeletonema costatum* (Bacillariophyceae). **J. Phycol.** 41: 84-94
- Robertson, D.L., G.J. Smith, and R.S. Alberte. 2001. Glutamine synthetase in marine algae: New surprises from an old enzyme. **J. Phycol.** 37(5): 37:793-795.
- Okamoto, O.K., L. Liu, D.L. Robertson, and J.W. Hastings. 2001. Members of a dinoflagellate luciferase gene family differ in synonymous substitution rates. **Biochemistry.** 40:15862-15868.
- Okamoto, O.K., D.L. Robertson, T. Fagan, J.W. Hastings and P. Colepicolo. 2001. Different regulatory mechanisms modulate the expression of a dinoflagellate iron-superoxide dismutase. **J. Biol. Chem.** 276: 19989-19993
- Li, L., L. Liu, R. Hong*, D.L. Robertson, and J.W. Hastings. 2001. N-terminal histidines are responsible for the decrease in luciferase activity at pH 8. **Biochemistry.** 40(6):1844-1849.
- Robertson, D.L., G.J. Smith, and R.S. Alberte. 1999. Characterization of a cDNA encoding glutamine synthetase from the marine diatom *Skeletonema costatum*. **J. Phycol.** 35:786-797.
- Robertson, D.L., and R.S. Alberte. 1996. Purification and biochemical characterization of glutamine synthetase from *Skeletonema costatum*. **Plant Physiol.** 111:1169-1175.
- Coyer, J.A., D.L. Robertson, R.S. Alberte. 1995. Genetic variability and parentage in *Macrocystis pyrifera* (Phaeophyceae) using multi-locus DNA fingerprinting. **J. Phycol.** 31:819-823.

* under

- Coyer, J.A., D.L. Robertson, and R.S. Alberte. 1994. Genetic variability within a population and between diploid/haploid tissue of *Macrocystis pyrifera* (Phaeophyceae). **J. Phycol.** 30:545-552.
- Urbach, E., D.L. Robertson, and S.W. Chisholm. 1992. Multiple origins of prochlorophytes revealed by 16s rRNA phylogeny. **Nature.** 335:267-270.
- Swift, H. and D.L. Robertson. 1991. Structural aspects of a *Prochloron*-tunicate symbiosis. **Symbiosis.** 10:95-113.
- Bray, R.N., A.C. Miller, S.C. Johnson, P.R. Krausse, D.L. Robertson, A.M. Westcott. 1988. Ammonium excretion by macroinvertebrates and fishes on a subtidal rocky reef in southern California. **Mar. Biol.** 100:21-30.
- Zimmerman, R.C. and D.L. Robertson. 1986. Effects of El Niño on local hydrography and growth of the giant kelp, *Macrocystis pyrifera*, at Santa Catalina Island, California. **Limnol. Oceanogr.** 30(6):1298-1302.

INVITED SEMINARS

<i>University of Rhode Island</i> , Department of Biology. Kingston, RI	2007
<i>Marine Research Center</i> , Stonybrook University, Stonybrook, NY	2005
<i>University of New Hampshire</i> , Biology Department, Durham NH	2003
<i>University of Connecticut</i> . Department of Ecology and Evolution Biology, Storrs, CT	2002
<i>University of Goettingen</i> . Zoologisches Institut. Goettingen. Germany	2000
<i>Northeastern University</i> . Department of Biology. Boston, MA	1999
<i>Cornell University</i> . Shoals Marine Laboratory, Portsmouth, NH	1999
<i>University of Rhode Island</i> . Department of Biology. Kingston, RI	1998
<i>Purchase College</i> . Division of Natural Sciences. Purchase, NY	1998
<i>Universidad Autónoma de Baja California</i> . Ensenada Mexico	1994

RECENT PRESENTATIONS (2005 – to present)

2007. Brown, K.L, Twing, K*, and D.L. Robertson. Steps towards unraveling the regulation of nitrogen assimilation in the marine diatom *Thalassiosira pseudonana* (Bacillariophyceae): variations in mRNA levels of five key nitrogen-assimilating enzymes in response to environmental cues. Botany 2007.
2007. Brown, K.L, Twing, K*, and D.L. Robertson. Steps towards unraveling the regulation of nitrogen assimilation in the marine diatom *Thalassiosira pseudonana* (Bacillariophyceae): variations in mRNA levels of five key nitrogen-assimilating enzymes in response to environmental cues. Phycological Society of America.
2007. Twing, K. *, K. Brown, and D.L. Robertson. Diurnal oscillations in nitrate reductase transcript abundance in the marine diatom *Thalassiosira pseudonana* (Bacillariophyceae): Influence of nitrate, light, and the circadian oscillator. Northeast Algal Society.
2007. Tartar, A., S. Ghoshroy, Brown, K.E. *, and D.L. Robertson. Phylogenetic analyses of GSIII and GSII: Evidence for a shared evolutionary history among heterokonts and haptophytes? Northeast Algal Society.
2007. Brown, K.L. and D.L. Robertson. Diurnal oscillations in the abundance of nitrate reductase mRNA in the marine diatom *Thalassiosira pseudonana*. Northeast Algal Society.
2006. Tartar, A., S. Ghoshroy, and D.L. Robertson. 2006. Phylogenetic analyses of GSIII and GSII: Evidence for a shared evolutionary history among heterokonts and haptophytes? Phycological Society of America.
2006. Ghoshroy, S., A. Tartar, and D.L. Robertson. Unraveling the evolutionary history of glutamine synthetase II in photosynthetic lineages with an emphasis on rhodophytes. Northeast Algal Society.
2005. Ghoshroy, S. and D.L. Robertson. Evolution of glutamine synthetase in rhodophytes. Northeast Algal Society
2005. Zadykovicz, E. and D.L. Robertson. Phylogenetic relationships among glutamate synthase (GOGAT) enzymes. Northeast Algal Society

UNDERGRADUATE DIRECTED RESEARCH

Nineteen undergraduates have conducted independent research in my laboratory since Sept. 2000
Faculty advisor for two students (Joanna Dubois [Clark University], Jamie Yassif [Swarthmore])
in the NSF funded REU program at Shoals Marine Laboratory, Cornell University

RESEARCH EXPERIENCE FOR TEACHERS

Jody Bird, UPCS High School, Worcester, MA (2003, 2004)
Anthony Giampiatruzzi, UPCS High School, Worcester, MA (2004)
Joann Foley, ALL School, Worcester, MA (2006, 2007)
Vanessa Munoz-Chesler, Sullivan Middle School, Worcester, MA (2006, 2007)

PROFESSIONAL SERVICE

Reviewer, University of San Francisco Biology Department (2007)
Panel Member: NSF Organism-Environment Interactions
Ad hoc reviewer NSF Biological Oceanography, Environmental Genomics, DOE GTL
Panel Member: DOE Microbial Genome Program, DOE Genomes to Life Program .
Northeast Algal Society, Nominations Committee and Executive Board (2004-2006)
Ad hoc Reviewer: Journal of Phycology, Phycologia, Protist, Experimental and Ecological
Botany, Washington Sea Grant, Connecticut Sea Grant, Massachusetts Sea Grant
Diving Control Board, Shoals Marine Lab, Cornell University (2001-2003)