

## SOHINI GHOSHROY, Ph. D

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## Education and training

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<b>Post Doctoral Fellow (NSF)</b>	<b>Clark University</b> Department of Biology	2011-Current.
<b>Seminar in College Teaching</b> Certificate course	<b>Worcester State University</b>	Spring 2012.
<b>Ph. D.</b> <b>Molecular Biology &amp;</b> <b>Evolution</b>	<b>Clark University</b> Department of Biology	2003-2011.
<b>MS</b> <b>Zoology</b>	<b>University of Connecticut</b> Department of Ecology and Evolutionary Biology	1997-2000.

## Teaching experience

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<b>Visiting Assistant Professor</b> <i>Introduction to Cellular and Molecular Biology</i>	<b>Worcester State University</b>	<b>Spring 2013</b>
<b>Part Time Day Faculty Member</b> <i>Introduction to Cellular and Molecular Biology</i>	<b>Worcester State University</b>	<b>Fall 2012,</b> <b>Spring 2013</b>

### Graduate Student Teaching Assistant- Clark University.

- **Introduction to Biology-** BIOL 101 and BIOL 102. 2004-2009.  
As a teaching assistant I lead lab sections by giving introductory lectures, guided students through experiments, graded and helped with experimental setups. Supervised by N. Filoramo. Five semesters.
- **Microbiology-** BIOL 109. 2009.  
Supervised students on projects, involving isolation of microbes from environmental samples and final identification by 16S rDNA sequencing, in addition to conducting standard microbiological experiments. Supervised by H. Wiatrowski. One semester.
- **Physiological Ecology of Marine Algae-** BIOL 219. 2005, 2006 and 2010.  
Worked together with Prof. D. Robertson, in designing and organizing experimental setups for a new course. For the three years this course was available, I trained and supervised groups of students who performed research involving RNA extraction, cDNA preparation, primer design, data mining from JGI DOE and NCBI and Real Time PCR amplification of genes involved in nitrogen and silicon bio-processing. Supervised by: D. L. Robertson. Three semesters.

### **Graduate Student Teaching Assistant- University of Connecticut.**

- **Principles of Biology** (Biology majors)- BIO 1107. 1998- 1999.  
Lead lab sections by giving introductory lectures, guided students through experiments, graded and helped with experimental setups. Three semesters.

### **Mentoring graduate and undergraduate students in research.**

I have extensive experience in mentoring students, as I am currently involved in mentoring a PhD graduate student, and two Master's students, which involves, guiding them with experimental designs, clarifying theories and knowledge in the field of molecular biology and phylogenetic analyses. I am also guiding them in the process of time management, effective communication of scientific findings, manuscript writing and maintenance of a molecular biology laboratory.

During my PhD research I have mentored five undergraduate students in methods related to molecular biology and phylogenetic analyses.

### **Other teaching experiences**

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- **Tutor of Biology.** Spring 1998. Tutored students under the CAP program conducted by Student Support Services, **University of Connecticut.**
- **Tutor of Biology.** Summer 1998. Tutored students, under the Upward Bound program provided through the Center for Academic Programs at the **University of Connecticut.**
- **Participant in seminars and discussions,** by Center for Excellence in Teaching and Learning, **Clark University.**
  - **Responding to Student's Writing.** 2007.
  - **TA training.** 2008. Interactive workshop on communications with supervisors, feedback and evaluation system and what makes a good TA, conducting review sessions and grading.

### **Publications**

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**Ghoshroy, S.** and D. L. Robertson. **2012.** Molecular evolution of glutamine synthetase II and III in the chromalveolates. *Journal of Phycology* 48:768-783.

**Ghoshroy, S.** **2011.** Glutamine synthetase gene family evolution in select lineages of photosynthetic eukaryotes. PhD Thesis. Clark University.

**Ghoshroy, S.** M. Binder, A. Tartar and D. L. Robertson. **2010.** Molecular evolution of glutamine synthetase II: Phylogenetic evidence of a non-endosymbiotic gene transfer event early in plant evolution. *BMC Evolutionary Biology* 2010, 10:198doi:10.1186/1471-2148-10-198

**Ghoshroy, S.** and J. N. Caira. **2001.** Four new species of *Acanthobothrium* (Cestoda: Tetraphyllidea) from the whiptail stingray *Dasyatis brevis* in the Gulf of California, Mexico. *Journal of Parasitology.* 87(2): 354-372

**Ghoshroy, S.** **2000.** Onchobothriids from the stingrays *Dasyatis brevis* Garman, 1880 and *Dasyatis longus* Garman, 1880 in the Gulf of California, Mexico. M.S. Thesis, University of Connecticut.

## **Presentations**

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**Sohini Ghoshroy**, M. Perera, J. Alexander, and D. L. Robertson. Regulation of nitrogen assimilation in marine diatoms: are post-transcriptional processes important? *Plant Biology 2012, Austin, TX.*

**Sohini Ghoshroy**, & Deborah L. Robertson. **2011.** Molecular evolution of glutamine synthetase II and III in select chromalveolate lineages. *50<sup>th</sup> Northeast Algal Symposium, Woods Hole, MA.*

**Sohini Ghoshroy**, Aurelien Tartar & Deborah L. Robertson. **2009.** Glutamine synthetase II: A case of lateral gene transfer in basal Viridiplantae? *48<sup>th</sup> Northeast Algal Symposium, Amherst, MA.*

**Sohini Ghoshroy** and Deborah L. Robertson. **2006.** Evolutionary relationship among Rhodophytes as revealed by Glutamine Synthetase II. *Evolution 2006.*

## **Awards**

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2012 American Society of Plant Biologists Travel Grant to Plant Biology 2012.

2006 Graduate Student Travel Award. Clark University, Graduate Student Council.

## **Methods and Skills**

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### ***Molecular Biology***

Extraction of nucleic acids (DNA and RNA), cDNA synthesis, primer design, PCR and Real Time PCR with SYBR green technology, Rapid Amplification of cDNA ends (RACE) PCR, restriction digests, cloning and DNA sequencing with Big Dye v 3.1 with automated capillary sequencer ABI 3130 at Clark University.

### ***Protein methods***

Western blotting, SDS-PAGE, Electrophoretic Mobility Shift Assays for RNA- protein interaction studies, Immuno-precipitation with biotinylated RNA and streptavidin coated magnetic beads, Enzyme assay, spectrophotometry.

### ***Bioinformatics and phylogenetics***

Data mining, sequence alignment and phylogenetic tree construction using various softwares. Phylogenetic analysis (PAUP, MrBAYES and RAxML).

### ***Microscopy***

Transmission Electron Microscopy and Scanning Electron Microscopy techniques. Light microscopy.

### ***Dissection and Histology***

Dissection of shark digestive systems for parasite collection. Tissue staining and slide preparations for mounting and sectioning.

### ***Culture maintenance and aseptic techniques***

Maintenance of various strains of algal cultures under aseptic conditions.

## **Memberships**

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American Association for Advancement of Science

Phycological Society of America

American Society of Plant Biologists