

Hilary A. McManus

-Curriculum Vitae-

Department of Biological and Environmental Sciences
LeMoyne College
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PROFESSIONAL PREPARATION

Ph.D. in Botany, University of Connecticut	2007
M.A. in Botany with Honors, University of Kansas	2000
B.S. in Biology, <i>Cum Laude</i> , SUNY Oswego	1998
B.A. in Music, SUNY Oswego	1998
A.A.S. in Biology, Jamestown Community College	1995

APPOINTMENTS

Associate Professor in Biological Sciences, Le Moyne College, NY	2016-present
Honorary Research Associate, The New York Botanical Garden, NY	2015-present
Associate McDevitt Chair in Biological Sciences, Le Moyne College, NY	2014-present
Assistant Professor of Biology, Le Moyne College, NY	2010-2016
Instructor, Eagle Hill Humboldt Research Station, Steuben, ME	May 2010
Adjunct Lecturer, Biology, Manchester Community College, CT	2009-2010
Gratis Research Scientist, University of Connecticut, CT	2009-2010
Postdoctoral Researcher, University of Connecticut, Storrs, CT	2008
Postdoctoral Researcher, University of Michigan, Ann Arbor, MI	2007-2008

PUBLICATIONS (*indicates Le Moyne undergraduate)

Journal Articles

2016

Lenarczyk, J., **McManus, H.A.** 2016. Testing the boundaries of the green algal species *Pediastrum alternans* (Chlorophyceae) using conventional, geometric morphometric and phylogenetic methods. *Phycologia* 55:515-530.

2015

Farwagi, A.A*, Fucíková, K., **McManus, H.A.** 2015. Phylogenetic patterns of gene rearrangements in four mitochondrial genomes from the green algal family Hydrodictyaceae (Sphaeropleales, Chlorophyceae). *BMC Genomics*.

2012

Adl, S.M., Simpson, A.G.B., Lane, C.E., Lukes, J., Bass, D., Bowser, S., Brown, M.W., Burki, F., Dunthorn, M., Hampl, V., Heiss, A., Hoppenrath, M., Enrique, L., LeGall, L., Lynn, D.H., **McManus, H.A.**, Mitchell, E.A.D., Mozley-Stanridge, S.E., Parfrey, L.,

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Pawlowski, J., Rueckert, S., Shadwick, L., Schoch, C.L., Smirnov, A., Spiegel, F.W. 2012. The revised classification of eukaryotes. *The Journal of Eukaryotic Microbiology* 59: 429-493.

McManus, H.A., Lewis, L., Fucíková, K. Haugen, P. 2012. Invasion of protein coding genes by green algal ribosomal group I introns. *Molecular Phylogenetics and Evolution* 62: 109–116.

Qiu, Y-L., Taylor, A., **McManus, H.A.** 2012. Evolution of Life Cycle in Land Plants. *Journal of Systematics and Evolution* 50 (3): 171–194.

2011

McManus, H. A. Lewis, L. A., Schultz, E. 2011. Distinguishing multiple lineages of *Pediastrum duplex* Meyen 1829 with morphometrics, and a proposal for *Lacunastrum* n. gen. *Journal of Phycology* 47(1):123-130.

McManus, H. A., Lewis, L. A. 2011. Molecular phylogenetic relationships in the freshwater family Hydrodictyaceae (Sphaeropleales, Chlorophyceae), with an emphasis on *Pediastrum duplex*. *Journal of Phycology* 47(1):152-163.

2008

McManus, H. A., Qiu, Y. L. 2008. Life cycles in major lineages of photosynthetic eukaryotes with a special reference to the origin of land plants. *Fieldiana: Botany* 193:17-33.

2005

McManus, H. A., Lewis, L. A. 2005. Molecular phylogenetics, morphological variation and colony form evolution in the family Hydrodictyaceae (Sphaeropleales, Chlorophyta). *Phycologia* 44(6):582-595.

2002

McManus, H. A., Boucher, L., Taylor, E. L., Taylor, T. N. 2002. *Hapsidoxylon terpsichorum* gen. et sp. nov., a stem with unusual anatomy from the Triassic of Antarctica. *American Journal of Botany* 89 (12):1958-1966.

McManus, H. A., Taylor, E. L., Taylor, T. N., Collinson, J. W. 2002. A petrified *Glossopteris* flora from Collinson Ridge, Shackleton Glacier Area: Late Permian or Early Triassic? *Review of Palaeobotany and Palynology* 120:233-246.

McManus, H. A., Seago, J. L., Marsh, L. C. 2002. Histochemical and Epifluorescent Shoot Anatomy of *Typha latifolia* L., *Typha angustifolia* L. and *Typha glauca* Godr. *Annals of Botany* 90:489-493.

Book Chapters

McManus, H.A., Qiu, Y.-L. 2010. On alternation of generations in embryophytic plants. pp 190-200, in Darwin's Heritage Today: Proceedings of the Darwin 200 Beijing International Conference (eds. M. Long, H. Gu, and Z. Zhou), Higher Education Press, Beijing.

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Manuscripts Submitted and In Preparation

McManus, H.A., Sanchez, D.*, Chohan, A.*, Tesfayohanes, B.*, Lane, C.E., Karol, K.G. *In Preparation*. The first chloroplast genome sequences reported from the family Hydrodictyaceae (Chlorophyceae).

Fawley, M., Fawley, K., **McManus, H.A.** *In Preparation*. A new genus and species of the Hydrodictyaceae (Chlorophyceae).

GUEST LECTURES & SEMINARS

“Algae and Us: The surprising ways algal biology and research impact our lives.” Keynote at 2015 NYS Science Olympiad, Le Moyne College, March 14, 2015.

“The green algae.” SUNY Oswego guest lecture, Botany class, Dr. James L. Seago, Jr., September 2011; February 2013, 2014.

“Cryptic diversity in the green algae.” SUNY Oneonta, Biology Seminar, December 2013.

“The ecology and evolution of the green alga *Pediastrum* and its relatives in the family Hydrodictyaceae.” Natural Science Seminar, Le Moyne College, October 2011.

“The ecology and evolution of *Pediastrum*, a native alga of Lake Champlain, and its relatives in the algal family Hydrodictyaceae.” Biological Sciences Departmental Seminar, SUNY Plattsburgh, Plattsburgh, NY, October 2007.

“Introduction to the Algae.” Guest lecturer, Biol 205 Plant and Fungal Biology, Instructor: C. Martine, SUNY Plattsburgh, Plattsburgh, NY, October 2007.

CONTRIBUTED CONFERENCE PRESENTATIONS

“The diversity of house gutter eukaryotic microorganisms: a preliminary analysis.” Phycological Society of America Conference, Cleveland, OH, July 2016 (Poster Presentation, **co-authored with Le Moyne undergraduate students from BIO 327 - Botany**).

“Mitochondrial Genomes from the Green Algal Family Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 50th Phycological Society of America Conference, Philadelphia, PA, August 2015 (Poster Presentation, **co-authored with Le Moyne undergraduate Audrey Farwagi**).

“The Molecular and Morphological Diversity of the Freshwater Green Algal Genus *Hydrodictyon* (Sphaeropleales, Chlorophyceae).” 50th Phycological Society of America Conference, Philadelphia, PA, August 2015 (Poster Presentation, **presented by Le Moyne undergraduate students Nicholas Macoretta and Anna Curtin**).

“Four Mitochondrial Genomes from the Green Algal Family Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 54th Northeast Algal Symposium, Syracuse, NY, April 2015 (Poster Presentation, **presented by Le Moyne undergraduate Audrey Farwagi**).

“Defining the Diversity of the Green Algal Family Hydrodictyaceae in Central New York.” 54th Northeast Algal Symposium, Syracuse, NY, April 2015 (Poster Presentation, **presented by Le Moyne undergraduate student Afsah Chohan**).

“Variations Between Two Chloroplast Genomes within the Sphaeropleales.” Joint Aquatic Sciences Meeting, Portland, OR, May 2014 (Oral Presentation).

“Defining the Diversity of *Botryococcus* (Trebouxiophyceae, Chlorophyta).” 53rd Northeast

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- Algal Symposium, Newport, RI, April 2014 (Poster Presentation, **presented by Le Moyne undergraduate student Afsah Chohan**).
- “Examining Chloroplast Genomes in the Order Sphaeropleales.” 53rd Northeast Algal Symposium, Newport, RI, April 2014 (Poster Presentation, **presented by Le Moyne undergraduate student Daniel Sanchez**).
- “Effects of Saline Environment on Freshwater Green Algal Species *Monactinus simplex* and *Pediastrum duplex* (Hydrodictyaceae, Chlorophyceae), 53rd Northeast Algal Symposium, Newport, RI, April 2014 (Poster Presentation, **presented by Le Moyne undergraduate student India Dancil**).
- “Cryptic Diversity and What It Means for *Pediastrum* (Hydrodictyaceae, Chlorophyceae).” 10th International Phycological Congress, Orlando, FL, August 2013 (Oral Presentation).
- “Molecular and morphological variation in selected *Pediastrum* strains.” 52nd Northeast Algal Symposium, Mystic, CT, April 2013 (Poster Presentation, **presented by Le Moyne undergraduate students Craig Frysinger and Jaqueline Schaub**).
- “Testing the diversity of the green alga *Botryococcus* (Trebouxiophyceae).” 52nd Northeast Algal Symposium, Mystic, CT, April 2013 (Poster Presentation, **presented by Le Moyne undergraduate student Dana Baltrusitis**).
- “Assessing the phylogenetic utility of chloroplast genes within the Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 66th Annual Meeting of the Phycological Society of America, Charleston, SC, June 2012 (Poster Presentation, **co-authored with Le Moyne undergraduate students D. Baltrusitis, T. Bigelow, J. Schaub**).
- “Invasion of protein coding genes by green algal ribosomal group I introns.” 64th Annual Meeting of the Phycological Society of America, Lansing, MI, June 2010 (Oral Presentation).
- “Occurrence of Group I introns in the *rbcL* gene of chlorophyceae algae.” 48th Annual Northeast Algal Society Symposium, Amherst, MA, April 2009 (Poster Presentation).
- “A phylogenetic and morphometric study of the freshwater green alga *Pediastrum duplex* (Sphaeropleales, Chlorophyceae).” 61st Annual Meeting of the Phycological Society of America, Providence, RI, August 2007 (Oral Presentation).
- “Using molecular phylogenetics and morphometrics to determine species boundaries within the freshwater green algal family Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 46th Annual Northeast Algal Society Symposium, Narragansett, RI, April 2007 (Oral Presentation).
- “What two genes and many isolates reveal about species relationships and geographic distribution of the freshwater family Hydrodictyaceae (Sphaeropleales).” 60th Annual Meeting of the Phycological Society of America, Juneau Alaska, July 2006 (Oral presentation).
- “Characterization of Group IA introns in the chloroplast *rbcL* gene of five *Pediastrum* and two *Bracteacoccus* isolates (Sphaeropleales, Chlorophyceae).” 45th Northeast Algal Symposium, Marist College, Poughkeepsie, NY, April 2006 (Oral presentation).
- “Does thylakoid stacking follow a phylogenetic pattern in green algae?” 59th Annual Meeting of the Phycological Society of America with the 8th International Phycological Congress, Durban, South Africa, August 2005 (Poster presentation).

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- “Fuzzy species boundaries in Hydrodictyaceae (Chlorophyceae): Can molecules and growth studies give us 20/20 vision?” 44th Northeast Algal Symposium, April 2005 (Oral presentation).
- “Phenotypic plasticity, molecules and species boundaries in *Pediastrum* Meyen 1829.” 58th Annual Meeting of the Phycological Society of America, Williamsburg, VA, August 2004 (Poster presentation).
- “Exploration of morphological and genetic variation within the family Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 43rd Northeast Algal Symposium, Avery Point, CT, April 2004 (Poster presentation).
- “Exploration of morphological variation within the genus *Pediastrum* Meyen 1829 (Chlorophyceae, Chlorophyta).” 57th Annual Meeting of the Phycological Society of America, Salishan Resort, OR, June 2003 (Oral Presentation).
- “Phylogenetic relationships within the freshwater green algal family Hydrodictyaceae.” 42nd Northeast Algal Symposium, Saratoga Springs, NY, April 2003 (Oral Presentation).
- “Phylogenetic relationships among *Pediastrum* spp. and *Hydrodictyon* spp..” 56th Annual Meeting of the Phycological Society of America in conjunction with the Botanical Society of America, Madison, WI, August 2002. (Oral presentation).
- “An Enigmatic Axis from the Triassic of Antarctica.” American Journal of Botany (87) 6. Botanical Society of America: Botany 2000, Portland, OR (Oral presentation).
- “Petrified *Glossopteris* from Collinson Ridge, Shackleton Glacier Area, Antarctica.” XVI International Botanical Congress, St. Louis, MO, August 1999 (Poster presentation).
- “Structural comparison of three *Typha* species: *Typha glauca* and its putative parental species, *T. latifolia* and *T. angustifolia*.” American Journal of Botany 85(6): 15. 48th Annual Meeting of the AIBS, Montreal, Quebec, August 1997 (Oral presentation).

INVITED CONFERENCE PRESENTATIONS

- “A comparison of chloroplast and mitochondrial genomes within a family of green algae. ” Symposium: Seed-free Plants at the Genomic Scale. Botanical Society of America: Botany **2016**, Savannah, GA.(Oral Presentation).
- “Integrating molecular and morphological data to infer phylogeny in the Chlorophyta.” Symposium: Resolving the green branch of life: Current progress and future challenges. Botanical Society of America: Botany 2004, Snowbird, Utah, July-August **2004** (Oral Presentation).

GRANTS AND AWARDS

- National Science Foundation Research Experience for Undergraduates Award, GrAToL supplement, PIs: Dr. Louise Lewis, University of Connecticut, Dr. Ken Karol, NYBG, \$9,000 to support one REU student at Le Moyne College during summer 2015.
- LeMoyne College Research & Development Research Award, “Publishing Green Algal Genomes.” 2014-2015, \$3,600.00 (to cover Open Access publishing costs).
- LeMoyne College Research & Development Research Award, “Utilizing genome sequence data to resolve phylogeny in the freshwater green algae Hydrodictyaceae (Sphaeropleales, Chlorophyceae).” 2013-2014, \$3,561.23.

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National Science Foundation Research Opportunity Award Recipient, GrAToL supplement, PI:
Dr. Louise Lewis, University of Connecticut, \$19,840.

LeMoyne College Research & Development Stipend, Summer 2011, \$2,000.

National Science Foundation Assembling the Green Algal Tree of Life (GrAToL), Collaborator
2010-2012, \$10,000.

National Science Foundation Doctoral Dissertation Improvement Grant, *Systematics, colony form evolution and phenotypic plasticity within the family Hydrodictyaceae*, 6/2004-6/2006, \$10,516.

Ronald Bamford Endowment to the Department of Ecology and Evolutionary Biology,
Completing the Puzzle: Incorporating Euastropsis into the Hydrodictyaceae (Sphaeropleales, Chlorophyta) Phylogeny, 5/1/2004-5/1/2005, \$745.

Phycological Society of America Grants-in-Aid of Research Award, *Systematics, colony form evolution and phenotypic plasticity within the family Hydrodictyaceae*, 4/1/2003 to 4/1/2004, \$1,000.

Phycological Society of America Croasdale Award, *Kindrogan Freshwater Algae Course tuition assistance*, 7/2003, \$1,000.

Ronald Bamford Endowment to the Department of Ecology and Evolutionary Biology, *Systematics of Hydrodictyaceae (Sphaeropleales, Chlorophyta)*, 5/1/2002 to 5/1/2003, \$780.

Sigma Xi Grants-in-Aid of Research, *Petrified Glossopteris: Permian or Triassic?* 1/2000 to 1/2001, \$690.

Travel Awards

Phycological Society of America Hoshaw Travel Award, May 2006, for travel to the 60th Annual Meeting of the Phycological Society of America, \$1,000.

Ronald Bamford Endowment to the Department of Ecology and Evolutionary Biology
May 2005, for travel to the 8th International Phycological Congress, \$300.

Phycological Society of America Hoshaw Travel Award, May 2005, for travel to the 8th International Phycological Congress, \$1,000.

Phycological Society of America Hoshaw Travel Award, May 2004, for travel to the 58th Annual Meeting of the Phycological Society of America 2004 conference, \$400.

Phycological Society of America Hoshaw Travel Award, May 2003, for travel to the 57th Annual Meeting of the Phycological Society of America, \$400.

Northeast Algal Society travel award, March 2003, for travel to 42nd Northeast Algal Symposium, \$125.

Deep Time Travel Award, January 2003, for travel to IVth Deep Time Workshop, \$1,000.

Deep Gene Travel Award, August 2002, for travel to Botany 2002, \$500

Presentation Awards

Northeast Algal Society Robert T. Wilce Graduate Student Presentation Award April 2006

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Other Honors and Awards

Dr. Louis D. DeGennaro Undergraduate Mentor Award, Le Moyne College	2016
Invited Guest, Le Moyne College Scholar-Athlete Recognition Breakfast	2013, 2014
Biology Upper Level Graduate Teaching Assistant Award, Honorable Mention UConn Department of Ecology and Evolutionary.	Spring 2005
Botanical Society of America Young Botanist Award for Special Achievement	1998

TEACHING

LeMoyne College (*=New course prep)

Botany, Lecture & Lab (BIO 327, BIO 327L) - 4 cr.	F10*, F12/13/15
Plants & People, Lecture & Lab (BIO 424, BIO 424L) - 4 cr.	Fall 2014*
General Biology I Lecture & Lab (BIO 191, BIO 191L) - 4 cr.	Fall 2011*
General Biology II Lab (BIO 192L) - 1 cr.	Spring 2011*
Evolution, Lecture & Lab (BIO 245, BIO 245L) - 4 cr.	S12*, S14
Poisoning of a Planet (BIO 225) - 3 cr.	F11*/12/14, S13/15
Bioinformatics, Lecture & Lab - 4 cr. (BIO 427, BIO 427L)	S11*, S13*, S15
ADV - Freshman Advising - 1 cr.	F11*, F12

Eagle Hill Field Station, Humboldt Foundation, Steuben, ME

Introduction to Phylogenetic Methods	May-June 2010
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Manchester Community College, Manchester, CT

Introduction to Biology for non-majors, Lecture & Lab (BIO 105)	2009-2010
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University of Connecticut, Storrs, CT

Introduction to Botany Teaching Assistant, Biol 110	2001-2006
Biology of the Algae Teaching Assistant, EEB 290/390	
Principles of Biology I Teaching Assistant, Biol 107	

University of Kansas, Lawrence, KS

Biology for majors Teaching Assistant	1998-2000
Biology for non-majors Teaching Assistant	

UNDERGRADUATE RESEARCH ADVISEES

Macoretta, N. REU Student, Le Moyne College	2015-2016
Curtin, A. McDevitt Research Fellow, Le Moyne College	2015-2016
Meador, T. Student at Le Moyne College.	2015-2016
Chohan, A. Student & McDevitt Research Fellow, Le Moyne College	2013-2015
Tesfahoyanes, B. Student at Le Moyne College	2014-2015
Farwagi, A. Volunteer Researcher, 2014 graduate of Le Moyne College	2014-Present
Dancil, I. Student at Le Moyne College	Spring 2014
Sanchez, D. Student at Le Moyne College	2013-2014
Baltrusitis, D. Student at Le Moyne College	2012-2013
Schaub, J. Student at Le Moyne College	2012-2013
Fry singer, C. Student at Le Moyne College	2012-2013
Bigelow, T. Student at Le Moyne College	Spring 2012

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WORKSHOP PARTICIPATION

GrAToL workshop, Natural Academy of Sciences, Philadelphia, PA	March 8, 2014
GrAToL workshop, Natural Academy of Sciences, Philadelphia, PA	March 14, 2013
GrAToL workshop, University of Washington, Seattle, WA	July 17, 2011
Freshwater Algae Course, Kindrogan Field Centre, Scotland	June 2003
4th Deep Time Workshop: Dating Divergences	Feb. 22-23, 2003
Deep Gene Research Coordination Network Workshop	August 7th, 2002

SERVICE

Le Moyne College

Assistant Professor of Genetics, Search Committee Chair	Fall 2015
Assistant Professor of Physiology, Search Committee Chair	Fall 2015
Assistant Professor of Ecology Search Committee	Spring 2015
Visiting Professor for Anatomy & Physiology Search Committee	Spring 2015
Respondent for "The Future of Being Human" speaker Dr. Rob Dunn	Feb. 24, 2015
Wilson Art Gallery 2015-2016 Exhibit Selection Committee	Spring 2015
Feast of St. Francis Event Organizing Committee	Fall 2014
Faculty Executive Board, Division 3 Representative	2014-2016
Fellowships and Scholarships Committee	2014-2015
Integral Honor's Thesis Committee: Nicole Martinez	Spring 2014
Faculty Advisor to Student Environmental Coalition Club	2012-2015
Natural Sciences Seminar Organizing Committee	2011-present
Faculty Microbiologist/Immunologist Search Committee	2013-2014
Environmental Committee	2013-2014
Master's of Global Health Development Committee	2012
Intercollegiate Athletic Advisory Board	2012-2013
Search Committee for Administrator for Sponsored Research Position	2012-2013

National Science Foundation

NSF Preliminary Proposal Review Panel	April 2014
NSF Ad hoc Grant Proposal Reviewer	Fall 2013
NSF Grant Proposal Review Panel	Dec. 2012

Professional Societies

Northeast Algal Society Co-Convenor, 54th (2015) NEAS Conference	2013-2015
G. F. Papenfuss Poster Judge, 10th International Phycological Congress	2013
Botanical Society of America Darbaker Prize Committee	2012-2013
Northeast Algal Society Secretary	2011-2016
Phycological Society of America Membership Committee	2011-2012
Northeast Algal Society Nominations Committee Chair	2009-2010
Northeast Algal Society Nominations Committee	2008-2009
Northeast Algal Society Executive Committee Student Representative	2006-2007
Phycological Society of America Executive Committee Student Representative	2005-2007

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Phycological Society of America Award of Excellence Committee	2005-2007
Phycological Society of America Awards Committee	Spring 2005
<i>Manuscript Reviews</i>	2011-2015
Brittonia, Journal of Phycology, Phycologia, Acta Societatis Botanicorum Poloniae, BioEssays, Algal Research, Northeastern Naturalist (Guest Editor)	
<i>Graduate School</i>	
Graduate student representative to Faculty, EEB at UConn	Fall 2004
UConn Integrated Pest Management Workgroup member	2004-2006
Web Committee for 2004 Northeast Ecology & Evolution Conference	2003-2004
Housing Committee for 2004 Northeast Ecology & Evolution Conference	2003-2004
Department of Ecology and Evolutionary Biology, UConn	2003-2004
Curriculum Committee Graduate student representative	
Department of Ecology and Evolutionary Biology, U of Kansas	1998-1999
Graduate Student Organization Representative	
Department of Ecology and Evolutionary Biology, U of Kansas	1998-1999
Botany Graduate Student Organization Faculty Representative	
<i>Community</i>	
Board of Directors, Baltimore Woods Nature Center (BWNC), Marcellus, NY	2014-2017
Development Committee, Baltimore Woods Nature Center, Marcellus, NY	2016-2017
Executive Board, Natural STEM Enrichment at BWNC, Marcellus, NY	2015-2016
Plant Cells Lesson for 10 students, grades 5-7 at The New School, Dewitt	May 19, 2015
Plant Cells Lesson for 9 students, grades 5-7, The New School, Dewitt	May 6, 2015
Judge, Ying TRSEF Science Fair Scholars Finals	2015
Relay for Life volunteer, Manchester, CT	2006, 2007
Center for Applied Genetics & Technology Biodiversity & Genetics Workshop	July 2005
Biologist at University of Connecticut's BioBlitz	June 2001-05
Educator, Future Problem Solving Program of Connecticut	April 2003
Family Weekend Educator, University of Kansas Natural History Museum	Spring 2000