

Curriculum Vitae  
**Nicole A. Hynson**  
University of California Berkeley  
321 Koshland Hall Berkeley, CA 94720-3102 U.S.A.  
nhynson@nature.berkeley.edu  
phone: 510-642-548 fax: 510-642-4995

**Professional Status:**

2005-Present *PhD Candidate*, University of California Berkeley, Department of Environmental Science, Policy & Management  
*Advisor:* Dr. Thomas D. Bruns  
*Expected PhD:* May 2010

**Previous Education:**

1998-2002 *Bachelor of Science:* Mycology/Forest Ecology, The Evergreen State College, Olympia, WA.

**Current Research Interests:** The ecology and evolution of mycorrhizal fungi.

**Appointments:**

2009 *Graduate Student Instructor:* "Plant Physiological Ecology", UC Berkeley Department of Integrative Biology. Professor: Todd Dawson.  
2007 *Graduate Student Instructor:* "California Mushrooms", UC Berkeley, Department of Plant Biology. Professor: Dr. Thomas Bruns.  
2007 *Institute of European Studies Fellow:* University of Bayreuth, Germany. Primary Investigator: Dr. Gerhard Gebauer  
2005 *Graduate Student Instructor:* "The Diversity of Plants and Fungi", UC Berkeley Department of Plant Biology. Professor: Dr. John Taylor.  
2004-2005 *Research Assistant:* Bruns Lab, UC Berkeley, Department of Plant Biology. Primary Investigator: Dr. Thomas Bruns  
2003 *Mycorrhizal Researcher:* USDA Forest Service, Olympia Forestry Science Laboratory, Olympia, WA. Lead Ecologists: Dr. Joan Ziegltrum.  
2002 *Botanist:* USDA Forest Service, Olympia Forestry Sciences Lab, Olympia, WA. Lead Ecologist: Dr. Andrew Carey.  
2002 *Intern:* University of Hawaii, Hilo: "Inventory and Identification of the Gasteromycetes of Hawaii." Primary Investigator: Dr. Don Hemmes.  
2001-2002 *Biological Technician:* USDA Forest Service, Olympic National Forest Supervisor's Office, Olympia, WA. Lead Ecologist: Dr. Joan Ziegltrum.

**Recent Publications:**

Book Chapter: **N.A. Hynson**, G. Gebauer & T.D. Bruns. *Nutrition of partially and fully myco-heterotrophic plants elucidated by stable isotope mass spectrometry*. Myco-heterotrophy Ed. Vincent Merckx. Springer: New York, NY (In prep).

Invited Review: V. Merckx, M.I. Bidartondo & **N.A. Hynson** (2009) *Myco-heterotrophy: when fungi host plants*. Annals of Botany doi:10.1093/aob/mcp235.

**N.A. Hynson** (2009) *Recruiting a new generation of mycologists: how to engage youth in mycology*. Mycena News, The Mycological Society of San Francisco's Newsletter 56(5).

**N.A. Hynson** & T.D. Bruns (2009) *Evidence of a myco-heterotroph in the plant family Ericaceae that lacks mycorrhizal specificity*. Proceedings of the Royal Society London Series B: Biological Sciences doi:10.1098/rspb.2009.1190.

**N.A. Hynson**, K. Preiss, G. Gebauer & T.D. Bruns (2009) *Isotopic evidence of full and partial myco-heterotrophy in the plant tribe Pyroleae (Ericaceae)*. New Phytologist 182: 719-726.

**N.A. Hynson**, K. Preiss & G. Gebauer (2009) *Is it better to give than receive? A stable isotope perspective to orchid-fungal carbon transport in the green orchid species *Goodyera repens* and *G. oblongifolia**. New Phytologist 182: 8-11.

T.D. Bruns, K.G. Peay, P.J. Boynton, L.C. Grubisha, **N.A. Hynson**, N.H. Nguyen, N.P. Rosenstock (2009) *Inoculum potential of *Rhizogon* spores increases with time over the first four years of a 99-year spore burial experiment*. New Phytologist 181: 463-470.

K. Zimmer, **N.A. Hynson**, G. Gebauer, E.B. Allen, M.F. Allen & D.J. Read (2007) *Wide Geographic and Ecological Distribution of Nitrogen and Carbon Gains From Fungi in *Pyrolloids* and *Monotropoids**. New Phytologist 175: 166-175.

Abstract: D. Jolles & **N.A. Hynson**. (2007). *Local genetic differentiation and mycoheterotrophy in *Pyrola picta* and *Pyrola aphylla* (Pyroleae: Monotropeoideae: Ericaceae)*. Botany and Plant Biology Joint Congress Meeting. Number CP51006. Abstract ID: 1806.

## **Presentations:**

**Invited speaker:** *Evolution and Ecology of Myco-heterotrophy in Ericaceae*. Microbial Research Group, UC Irvine. 2009.

**Talk:** *Mycorrhizal Specialization and Its Role in the Evolution of Myco-heterotrophy*. Mycological Society of America Annual Meeting. 2009.

**Talk:** *When Fungi Host Plants: Unraveling the Role of Mycorrhizal Specificity in Myco-heterotrophic Plants.* Sonoma County Mycological Association. 2009.

**Poster:** *Exploring the Transition to Myco-heterotrophy in a Leafless Pyrola (Ericaceae) and its Close Relatives: Isotopic Evidence.* The 6<sup>th</sup> International Conference on Stable Isotopes in Ecology, Honolulu, HI. 2008.

**Talk:** *Evolutionary and Ecological Implications of Mycorrhizal Mediated Carbon Transfer in the Plant Tribe Pyroleae (Ericaceae).* Nord Forsk Research Training Course, University of Copenhagen, Denmark: “Identifying ectomycorrhizal fungi-from environmental samples to DNA sequences”. 2007.

**Poster:** *Chasing the Carbon Train: Mixotrophy and Myco-heterotrophy in the Plant Family Pyrolaceae.* International Conference of Mycorrhizae, Granada, Spain. 2006.

**Talk:** *Identification of the Mycorrhizal Associates of the Understory Plants Pyrola picta and P. aphylla.* UC Berkeley Blodgett Forest Research Station Annual Meeting. 2005.

#### **Honors and Awards:**

2010-2009	University of California Dissertation-Year Fellowship
2009	Mycological Society of America Miller Mentored Student Travel Award
2009	FESIN Workshop: Ecological Approaches to Analyzing Complex Community Datasets Travel Award
2008	Best Student Poster Award at the 6 <sup>th</sup> International Conference on Stable Isotopes in Ecology, Honolulu, HI.
2008	Sonoma County Mycological Society Herbert M. Saylor Award
2008	William Carroll Smith Fellowship
2007	BaCaTec Research Grant
2007	William Carroll Smith Fellowship
2007	Institute of European Studies Predissertation Fellowship
2006	Dept. of Environmental Science, Policy & Management Travel Grant
2007	NSF: Honorable Mention Graduate Student Fellowship competition
2007	California Native Plant Society Research Grant
2007-2006	William Carroll Smith Fellowship
2006	NSF: Honorable Mention Graduate Student Fellowship competition.
2003	Certificate of Recognition, Washington State University.
2001	Certificate of Appreciation, USDA Forest Service Olympic National Forest.
1998	The Evergreen State College Foundation Scholarship.

#### **Synergistic Activities:**

**2006-Present:** *Undergraduate Mentor*, University of California, Berkeley. I have trained numerous UC Berkeley undergraduate research apprentices as well as a summer exchange student from the University of Durham, UK, most of who were females pursuing biology as a career.

**2004-Present:** *Volunteer*, San Francisco Mycological Society's Fungus Fair, as a volunteer my role has been to educate the public on the functions of fungi in ecosystems as well as explaining key characteristics for identifying mushrooms.

**2003-2004:** *Environmental Education Coordinator*, YMCA Earth Service Corp, Olympia, WA. I coordinated a group of teen volunteers, worked with the local school district, government officials, and non-profit groups to create relevant environmental advocacy and outreach projects.

**2002-2003:** *Americorp Volunteer*, Washington State University Cooperative Extension "Teen-Works". I was responsible for creating and implementing an environmental education curriculum for low-income, at-risk teens. The program focused on youth leadership, environmental restoration, community outreach, and is still running today.

**2000&1996:** *Amigos De Las Americas Volunteer and Field Supervisor*, Honduras and Bolivia. This non-profit organization works in Latin America to support sustenance farming communities in sustainable development projects. While a volunteer I was responsible for environmental and health education project coordination with community members. These projects ranged from school gardens to family planning education to stove building. I also acted as the liaison between the community members, volunteers, and Bolivian non-profits that were sponsors of the projects.

**Membership:** Mycological Society of America

**Collaborators:** *Dr. Edith Allen*, Department of Botany, Plant Sciences, and Center For Conservation Biology, University of California, Riverside, CA. *Dr. Michael Allen*, Center for Conservation Biology, University of California, Riverside, CA. *Dr. Martin Bidartondo*, Kew Royal Botanical Gardens, Imperial College London, UK. *Dr. Todd Dawson*, Department of Integrated Biology, University of California Berkeley. *Dr. Gerhard Gebauer*, BayCEER Laboratory of Isotope Biogeochemistry, University of Bayreuth, Germany. *Diana Jolles*, Department of Evolution, Ecology and Organismal Biology, Ohio State University, OH. *Dr. Stefania Mambelli*, Center for Stable Isotope Biogeochemistry, University of California, Berkeley, CA. *Katja Preiss*, BayCEER Laboratory of Isotope Biogeochemistry, University of Bayreuth, Germany. *Sir David Read*, Department of Plant and Animal Sciences, University of Sheffield, UK. *Dr. Vincent Merckx*, Laboratory of Plant Systematics, Catholic University Leuven, Belgium.