

NHU HUYNH NGUYEN

CURRICULUM VITAE

University of Minnesota
250 Biological Sciences
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EDUCATION & PREPARATION

- 2013 – present Postdoctoral Associate
University of Minnesota
Dept. of Plant Biology
- 2006 – 2013 Doctor of Philosophy in Microbiology
University of California, Berkeley
Dept. of Plant and Microbial Biology
- 2001 – 2005 Bachelor of Science in Biological Sciences
Summa Cum Laude
Louisiana State University
Dept. of Biological Sciences

RESEARCH EXPERIENCE

- 2013-present University of Minnesota, Twin Cities – Dept. of Plant Biology
Advisor: Dr. Peter Kennedy
Host specificity in plant-fungal symbiotic associations and testing ecological patterns in ectomycorrhizal fungal community ecology using experimental and next generation multiplexed amplicon sequencing approaches.
- 2007 – 2013 University of California, Berkeley – Dept. of Plant and Microbial Biology
Advisor: Dr. Tom Bruns
Symbiotic bacteria community assemblage associated with fungal mycelium and longevity and dormancy of fungal spores using a combination of culturing and molecular techniques: vector cloning, methods for ecological studies such as 454-pyrosequencing, library preparation and data analysis using QIIME and R. Macrofungi identification, culture of saprobic and symbiotic fungi and bacteria, colonization of Pinaceae with ectomycorrhizal fungi.
- 2007 University of California, Berkeley – Dept. of Plant and Microbial Biology
Advisor: Dr. Chelsea Specht (rotation)

Phylogeny and serpentine adaptation patterns of California onions (*Allium*) through field collections, identification, curation, multi-locus sequencing and phylogenetic and ancestral state reconstruction; sight identification of many common nearctic and some tropical families and species. Very familiar with many of California's native plants, especially petaloid monocots.

- 2006 University of California, Berkeley – Dept. of Environmental Science, Policy, and Management
Advisor: Dr. Rodrigo Almeida (rotation)
Curing and reinfection of gut bacteria of the stinkbugs *Acrosternum hilare*, *Murgantia histrionica*, and *Thyanta pallidovirens* through culturing of symbiotic bacteria, raising of hosts, infection/reinfection of hosts with symbiotic bacteria, and epifluorescent microscopy.
- 2006 Lawrence Berkeley National Laboratory – Earth Sciences Division
Advisor: Dr. Eoin Brodie (rotation)
Bacteria community within the passalid beetle (*Odontotaenius disjunctus*) gut by collecting, dissecting, and preparing DNA for microarrays (PhyloChip) followed by processing and analyses.
- 2002 – 2006 Louisiana State University – Dept. of Biological Sciences
Advisor: Dr. Meredith Blackwell
Symbiotic yeast diversity in the gut of mushroom and wood-feeding beetles by collecting insects, culturing yeasts, performing physiological experiments, microscopy, identification through DNA sequencing and phylogenetic analyses.
- 2005 Louisiana State University – Dept. of Entomology
Advisor: Dr. Chris Carlton
Beetle identification, collection, curation, identification, and rearing of insects. Proficient with dichotomous keys of insects, especially beetles, to genus and some groups to species.

PUBLICATIONS

[Google Scholar profile](#)

h-index = 13, total citations = 468

NH Nguyen, Smith D, Peay KP, Kennedy P. Parsing ecological signal from noise in next generation amplicon sequencing. *New Phytologist* – In press.

Kennedy PG, **NH Nguyen**, Cohen H, Smith D, Peay K. Missing checkerboards: an absence of competitive signal in *Alnus*-associated ectomycorrhizal communities. Submitted to *Ecology*.

Ceja-Navarro JA, **Nguyen NH***, Karaoz U, Gross SR, Herman DJ, Andersen GL, Bruns TD, Pett-Ridge J, Blackwell M, Brodie EL. 2014. Compartmentalized microbial composition, oxygen

gradients and nitrogen fixation in the gut of *Odontotaenius disjunctus*. *The ISME Journal* 8:6–18. DOI:10.1038/ismej.2013.13. *1st and 2nd author contributed equally to this work. <http://www.nature.com/ismej/journal/v8/n1/full/ismej2013134a.html>

Ferro ML, **Nguyen NH**, Tishechkin A, Park J-S, Bayless V, Carlton CE. 2013. Coleoptera collected from rotting fishhook barrel cacti (*Ferocactus wislizeni* (Engelm.) Britton and Rose), with a review of nearctic Coleoptera associated with succulent necrosis. *The Coleopterists Bulletin* 67:419–443. <http://www.bioone.org/doi/abs/10.1649/0010-065X-67.4.419>

Kõljalg U, Nilsson RH, Abarenkov K., et al. 2013. Towards a unified paradigm for sequence-based identification of Fungi. *Molecular Ecology* 22: 5271–5277. DOI: 10.1111/mec.12481 <http://onlinelibrary.wiley.com/doi/10.1111/mec.12481/abstract>

Nguyen NH, Landeros F, Garibay-Orijel Roberto, Hansen Karen, Vellinga EC. 2013. The *Helvella lacunosa* species complex in western North America: cryptic species, misapplied names and parasites. *Mycologia* 105:1275-1286. DOI: 10.3852/12–391 <http://www.mycologia.org/content/early/2013/05/23/12-391.abstract>

Nguyen NH, Kerekes JF, Vellinga EC, Bruns TD. 2012. Synonymy of *Suillus imitatus*, the imitator of two species within the *S. caerulescens/ponderosus* complex. *Mycotaxon* 122:389–398. DOI: 10.5248/122.389 <http://www.ingentaconnect.com/content/mtax/mt/2012/00000122/00000001/art00044>

Nguyen NH, Hynson NA, Bruns TD. 2012. Stayin' Alive: survival of mycorrhizal fungal propagules from 6-yr-old forest soil. *Fungal Ecology* 5:741–746; DOI: 10.1016/j.funeco.2012.05.006 <http://www.sciencedirect.com/science/article/pii/S1754504812000864>

Peay GP, Schubert MG, **Nguyen NH**, Bruns TD. 2012. Measuring ectomycorrhizal fungal dispersal: macroecological patterns driven by microscopic propagules. *Molecular Ecology* 21: 4122-4136; DOI: 10.1111/j.1365-294X.2012.05666.x <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-294X.2012.05666.x/abstract>

Nguyen NH, Suh S-O & Blackwell M, 2011. *Spathaspora* Nguyen, Suh & Blackwell. In: *The Yeasts, a taxonomic study*, 5th Edition. Eds. Kurtzman, C.P., J. Fell, and T. Boekhout. Elsevier, Amsterdam. <http://www.sciencedirect.com/science/book/9780444521491>

Bruns TD, Peay KG, Boynton PJ, Grubisha LC, Hynson NA, **Nguyen NH**, Rosenstock NP. 2009. Inoculum potential of *Rhizopogon* spores increases with time over the first four years of a 99-year spore burial experiment. *New Phytologist* 181:463–470. <http://onlinelibrary.wiley.com/doi/10.1111/j.1469-8137.2008.02652.x/full>

M. I. Bidartondo *et al.* 2008. Preserving Accuracy in GenBank. *Science* 319:1616. <https://www.sciencemag.org/content/319/5870/1616.1.full>

Nguyen NH, Driscoll HE, & Specht CD. 2008. A molecular phylogeny of the wild onions (*Allium*; Alliaceae) with a focus on the Western North American center of diversity. *Molecular Phylogenetics and Evolution* 47:1157–1172.

<http://www.sciencedirect.com/science/article/pii/S1055790307004290?via=ihub>

Suh S-O, **Nguyen NH** & Blackwell M. 2008. Yeasts isolated from plant-associated beetles and other insects: seven novel *Candida* species near *Candida albicans*. *FEMS Yeast Research* 8:88–102. <http://onlinelibrary.wiley.com/doi/10.1111/j.1567-1364.2007.00320.x/abstract>

Nguyen NH, Suh S-O & Blackwell M. 2007. Five novel yeast species associated with Neuroptera and other insects. *Mycologia* 99:842–858.

<http://www.mycologia.org/content/99/6/842.short>

Suh S-O, **Nguyen NH** & Blackwell M. 2006. A yeast clade near *Candida kruisii* uncovered: nine novel *Candida* species associated with basidioma-feeding beetles. *Mycological Research* 110:1379–1394. <http://www.sciencedirect.com/science/article/pii/S0953756206002711>

Nguyen NH, Suh S-O, Marshall C & Blackwell M. 2006. Morphological and ecological similarities: wood-boring beetles associated with novel xylose-fermenting yeasts, *Spathaspora passalidarum* gen. nov., sp. nov. and *Candida jeffriesii* sp. nov. *Mycological Research* 110:1232–1241. <http://www.sciencedirect.com/science/article/pii/S0953756206002188>

Nguyen NH, Suh SO, Erbil CK & Blackwell M. 2006. *Metschnikowia noctiluminum* sp. nov., *Metschnikowia corniflorae* sp. nov., and *Candida chrysomelidae* sp. nov., isolated from green lacewings, and beetles. *Mycological Research* 110: 346-356.

<http://www.sciencedirect.com/science/article/pii/S0953756205000572>

Nardi JB, Bee CM, Miller LA, **Nguyen NH**, Suh S-O & Blackwell M. 2006. Communities of microbes that inhabit the changing hind gut landscape of a subsocial beetle. *Arthropod Structure and Development* 35: 57-68.

<http://www.sciencedirect.com/science/article/pii/S1467803905000459>

Suh S-O, **Nguyen NH** & Blackwell M. 2005. Nine new *Candida* species near *Candida membranifaciens* isolated from insects. *Mycological Research* 109: 261-265.

<http://www.sciencedirect.com/science/article/pii/S0953756208602269>

Suh S-O, White MM, **Nguyen NH** & Blackwell M. 2004. The identification of *Enteroramus dimorphus*: a xylose-fermenting yeast attached to the gut of beetles. *Mycologia* 96:756-760.

<http://www.mycologia.org/content/96/4/756.full>

OTHER PUBLICATIONS

Nguyen NH. 2014. What is a species? Concepts, hypotheses, and thoughts from a plant grower. RHS Lilies and Related Plants. 2013-2014. Royal Horticultural Society Lily Group. Hallfield, UK.

Nguyen NH. 2013. MycoDigest: *Clitocybe sclerotoidea*: A most wonderful parasite of *Helvella vespertina*. *Mycena News*, 64:07 and reprinted in *The Mycophile*.

Nguyen NH. 2012. MycoDigest: How long do fungal spores live? *Mycena News*, 63:07; reprinted in *The Mycophile*, 53:2; reprinted in *LI Sporeprint* 2013.

Nguyen NH. 2011. MycoDigest: Professor Thaxter's Laboulbeniomycetes: Sexually transmitted fungal ectoparasites of insects. *Mycena News*, 62:03.

Nguyen NH. 2010. MycoDigest: Diversity of microscopic fungi in beetle guts. *Mycena News*, 61:04.

Nguyen NH. 2009. The cylindrical leafed onions of California. *The Bulb Garden*, 8:4.

Nguyen NH. 2007. Featured Research: Yeasty Guts of Beetles. *ATBI Quarterly*, 8:7.

AWARDS & FELLOWSHIPS

2013	UC Berkeley Outstanding Graduate Student Instructor Award
2012	UC Berkeley Dissertation Year Fellowship
2012	Dept. of Plant and Microbial Biology Outstanding Graduate Student Instructor Award, UC Berkeley
2012	Mycological Society of America Mentored Travel Award
2010	Mycological Society of America Graduate Fellowship
2010	Mycological Society of America Mentored Travel Award
2010	UC Berkeley Graduate Division Travel Award
2010	UC Berkeley Graduate Assembly Travel Award
2009 – 2012	Fungal Environmental Sampling and Informatics Network annual travel grant
2008 – 2011	National Science Foundation Graduate Research Fellowship
2008	Mentored Research Fellowship, UC Berkeley
2005	Department of Biological Sciences Undergraduate Research Award, LSU
2004	Charles S. McCleskey Memorial Endowed Scholarship for Excellence in Microbiology, LSU
2001 – 2005	Tuition Opportunity for Student (TOPS) Scholarship, LSU
2003	Summer Research Fellowship supported by the Howard Hughes Medical Institute Grant through the Undergraduate Biological Sciences Education Program to LSU
2001	Belaire High School Science Award
2001	Beta Club Service Award

TEACHING & MENTORING

2013	Jepson Herbarium workshop: "Evolution and Diversity of Mushrooms", co-instructor
2012	BIO 1B – Introductory Biology, discussion and lab
2011	PMB 113L – California Mushrooms Lab
2010	PMB 110L – Fungal Biology/Mycology Lab

2009 PMB 102L – Diversity of Plant and Fungi Lab
2007 BIO 1B – Introductory Biology, discussion and lab

Undergraduate students mentored: Cennet Erbil, Christina Dang, Aurash Khoobehi, Stephanie Gross, Robina Ahmad, Nicole Pay, Gerry Cobian, Benjamin Araki, Blake Boeing, Natalie Pierson.

ORAL & POSTER PRESENTATIONS

NH Nguyen & TD Bruns. 2014. Ten years of dormancy: fungal spores and their ability to form long-term sporebanks in a northern California coastal pine ecosystem. Northern California Botanical Society, 2014. Oral presentation.

Justo A, Malysheva E, Bulyonkova T, Vellinga EC, Cobian G, **Nguyen NH**, Minnis AM, and Hibbett DS. 2013. "Phylogeography and taxonomy of *Pluteus* section *Pluteus* (Basidiomycota, Agaricales) in the Northern Hemisphere." In *Phytopathology*, vol. 103, no. 6, pp. 70-70. 3340 American Phytopathological Society, 2013. Oral presentation.

NH Nguyen. 2012. The native bulbs of California. Master Gardener South County group. Oral presentation.

NH Nguyen. 2012. The inner workings of mushroom taxonomy. New species and how to recognize and describe them. Bay Area Mycological Society; Fungus Federation of Santa Cruz. Oral presentation.

NH Nguyen, K Hansen, R Healy, EC Vellinga. 2012. *Helvella vespertina* and *Helvella dryophila*, two new *Helvella lacunosa* look-alikes from western North America. Poster presentation.

NH Nguyen, N Hynson, TD Bruns. 2011. Longevity, dormancy and a fiery re-awakening of ectomycorrhizal fungal spores. Mycological Society of America meeting, Fairbanks, AK. Oral presentation.

NH Nguyen, TD Bruns. 2010. Community assemblage and specificity of bacterial associates within Bishop pine (*Pinus muricata*) ectomycorrhizal root-tips. Mycological Society of America meeting, Lexington, KY. Oral presentation.

NH Nguyen, TD Bruns. 2010. Community assemblage and specificity of bacterial associates within Bishop pine (*Pinus muricata*) ectomycorrhizal root-tips. 9th International Mycological Congress, Edinburgh, Scotland. Poster presentation.

NH Nguyen. 2009. Enhanced sporulation of the *Metschnikowia* yeast clade by *Cladosporium gossypiiicola*. Mycological Society of America meeting, Snowbird, UT. Poster presentation.

EL Brodie, J Pett-Ridge, P Weber, G Andersen, M Blackwell, **NH Nguyen**, K Goldfarb, S Gross, S-O Suh, J Nardi, TD Bruns, P Hoerich. 2008. Profiling microbial identity and activity:

novel applications of NanoSIMS and high density microarrays. Department of Energy, Genomics:GtL meeting.

EL Brodie, KC Goldfarb, RA Daly, J Pett-Ridge, **NH Nguyen**, TZ DeSantis, YM Piceno, S Gross, M Blackwell, GL Andersen. 2008. PCR-independent analysis of active microbial communities. American Society for Microbiology meeting. Poster presentation.

NH Nguyen, TD Bruns, E Brodie, and M Blackwell. 2008. Spatial characterization of the prokaryotic community within the gut of the patent-leather beetle, *Odontotaenius disjunctus*, using 16S rRNA PhyloChips. Ecological Society of America meeting, Milwaukee, WI. Oral presentation.

EL Brodie, **NH Nguyen**, TZ DeSantis, S Gross, S-O Suh, JB Nardi, TD Bruns, M Blackwell, GL Andersen. 2007. Spatial characterization of the prokaryotic community structure in the passalid beetle gut using a high-density 16S rRNA PhyloChip. American Society for Microbiology meeting. Poster presentation.

NH Nguyen, HE Driscoll and CD Specht. 2007. California onions: perspectives in molecular phylogeny and traditional taxonomy. Botany Lunch at the UC/Jepson Herbaria, University of California, Berkeley. Oral presentation.

NH Nguyen, S-O Suh and M Blackwell. 2007. From wine to gut: diversity hotspots for budding yeasts. 8th Annual Intercampus Microbiology Student Symposium, UC Berkeley, California. Oral presentation.

NH Nguyen, S-O Suh, and M Blackwell. 2003. Gut Yeasts from 10 Orders of Insects. MSA-BMS joint meeting, Asilomar, California, July 2003. Poster presentation.

NH Nguyen. 2005. The Insects All Around You. Lab exercise. Belaire High School.

NH Nguyen. 2002-2004. Metamorphosis of *Heraclides crespontes* lab. Belaire High School.

NH Nguyen. 2001. How to collect and preserve insects. Belaire High School. Oral presentation.

SYNERGISTIC ACTIVITIES

Reviewer of manuscripts for Antonie van Leeuwenhoek, Biocontrol Science & Technology, FEMS Microbial Ecology, Microbial Ecology, Molecular Phylogenetics & Evolution, Mycorrhiza, Mycotaxon, New Phytologist, Plant Ecology & Diversity and PLOS ONE.

2012-present	Pacific Bulb Society, President and Board of Directors
2011	Chair of the Plant and Microbial Biology Graduate Student Group
2010	Graduate Student Representative of the Dept. of Plant and Microbial Biology Admissions Committee
2006-2011	UC Berkeley Annual Microbiology Student Symposium organizing committee
2006-2012	Mycological Society of San Francisco Annual Fungus Fair

2007 Chair of UC Berkeley Microbiology Student Group
2006, 2007 Point Reyes MycoBlitz, mycologist and curator
2003-2007 Specimen preparation of Laboulbeniomyces for society benefit auctions MSA-
BMS, MSA-NAMA, BMS
2000-2005 America Online Academic Assistant Center: Science tutor
2001 Math tutor to 4th grade LaBelaire Elementary Students