

Merlin M. White
Boise State University

Department of Biological Sciences
Room 210, Science Building
1910 University Drive
Boise, Idaho
83725-1515

Ph: (208) 426-4638
FAX: (208) 426-1040 (main office)
Biology (office): (208) 426-3262
e-mail: MerlinWhite@boisestate.edu

PROFESSIONAL PREPARATION

Saint Mary's University	Biology (Honors)	B.Sc.	1991
Dalhousie University	Science - Biology	B.Ed.	1995
Dalhousie University	Biology	M.Sc.	1997
University of Kansas	Botany (Ecology & Evolutionary Biology)	Ph.D.	2002

APPOINTMENTS (RECENT)

Assistant Professor, Boise State University	Dec. 31, 2006 - Present
Adjunct Research Associate, U. of Kansas, Dept Ecol & Evol. Biology	Jan. 3, 2007 - Present
Research Associate & PI, U. of Kansas, Dept Ecol & Evol. Biology	April 2004 – Dec. 2006
Fellow (post doctoral researcher), U. of Kansas	June 2002 – Mar. 2004

PRIOR APPOINTMENTS

University of Kansas, Dept. Ecology & Evolutionary Biology, Lawrence, Kansas, USA
Graduate Research Assistant May, 1997 – May 2002
Graduate Teaching Assistant January - May, 1998
Graduate Research Assistant August, 1996 - January, 1997

Dalhousie University, Department of Biology, Halifax, Nova Scotia, Canada
Graduate Fellowship May 1995 - August 1996
High School Teaching Experience 6 weeks, Spring, 1995
Junior High School Teaching Experience 2 weeks, Fall, 1994
Graduate Fellowship May, 1994 - September, 1994
Graduate Teaching Assistant September, 1993 - May, 1994
Research Assistant May, 1991 - August, 1993

Saint Mary's University, Department of Biology, Halifax, Nova Scotia, Canada
Laboratory Demonstrator 1988-1991
Summer Research Positions 1988-1991

THESES COMPLETED

Ph.D. Taxonomic and molecular systematic studies of the Harpellales (Trichomycetes) toward understanding the diversity, evolution and dispersal of gut fungi. Degree awarded May, 2002.

M.Sc. Assessment of copepod development in relation to genome size and 18S rDNA copy number. Degree awarded May, 1997.

B.Sc. (Honors). A study of the infection of *Salvelinus fontinalis* eggs by *Saprolegnia diclina*. Degree awarded May, 1991.

PUBLICATIONS (in refereed journals)

(* are undergraduates)

2011. Bench ME, **White MM**. New species and first records of trichomycetes from immature aquatic insects in Idaho. (*Mycologia*, in press)

2011. *Oman SJ, **White MM**. Extended studies of *Baltomyces styrax* in Idaho and expanded distribution of this isopod gut fungus in the USA. (*Mycologia*, in press)

2011. Lichtwardt RW, **White MM**. Typification of *Smittium*, an important genus in the taxonomy of Harpellales. *Mycologia* **103**: 918-920.

2011. Lichtwardt RW, Williams MC, **White MM**. *Klastostachys*, a new genus of Harpellales in Chironomidae larvae. *Mycologia* **103**: 915-917.

2011. Valle LG, **White MM**, Cafaro MJ. Dipteran-associated Harpellales from lowland and submontane tropical rain forests of Veracruz (Mexico). *Mycologia* **103**: 656-673.

2011. Strongman DB, **White MM**. *Trifoliellum bioblitzii*, a new genus of trichomycete from mayfly nymphs in Nova Scotia, Canada. *Mycologia* **103**: 219-225.

2009. Hapsari MP, **White MM**, Chukeatirote E, Hyde KD. Seasonality of *Harpella melusinae* Leger and Duboscq (Harpellales) in black fly larvae in Northern Thailand. *Cryptogamie Mycologie* **30**: 191-198.

2009. Hapsari MP, **White MM**, Hyde KD. Freshwater trichomycetes from northern Thailand. *Cryptogamie Mycologie* **30**: 405-425.

2008. Strongman DB, **White MM**. Trichomycetes from lentic and lotic aquatic habitats in Ontario, Canada. *Botany* **86**: 1449-1466.

2008. Valle LG, **White MM**, Cafaro MJ. Harpellales in the digestive tracts of Ephemeroptera and Plecoptera nymphs from Veracruz, Mexico. *Mycologia* **100**: 149-162.

2007. A higher-level phylogenetic classification of the *Fungi*. Hibbett DS, Binder M, Bischoff JF, Blackwell M, Cannon PF, Eriksson O, Huhndorf S, James T, Kirk PM, Lücking R, Lumbsch T, Lutzoni F, Matheny PB, McLaughlin DJ, Powell MJ, Redhead S, Schoch CL, Spatafora JW, Stalpers JA, Vilgalys R, Aime MC, Aptroot A, Bauer R, Begerow D, Benny GL, Castlebury LA, Crous PW, Dai Y-C, Gams W, Geiser DM, Griffith GW, Gueidan C, Hawksworth DL, Hestmark G, Hosaka K, Humber RA, Hyde K, Kõljalg U, Kurtzman CP, Larsson K-H, Lichtwardt R, Longcore J, Miądlikowska J, Miller A, Moncalvo J-M, Mozley-Standridge S, Oberwinkler F, Parmasto E, Reeb V, Rogers JD, Roux C, Ryvarden L, Sampaio JP, Schuessler A, Sugiyama J, Thorn RG, Tibell L, Untereiner WA, Walker C, Wang Z, Weir A, Weiss M, **White MM**, Winka K, Yao Y-J, Zhang N. Last 20 authors are listed alphabetically. *Mycological Research* **122**: 509-547.

2006. **White MM**, James T, O'Donnell K, Cafaro MJ, Tanabe Y, Sugiyama J. Phylogeny of the Zygomycota based on nuclear ribosomal sequence data. *Mycologia* **98**: 872-884.

2006. **White MM**, Colbo MH, Lichtwardt RW. Confirmation and identification of parasitic stages of obligate endobionts (Harpellales) in blackflies (Simuliidae) by means of rRNA sequence data. *Mycological Research* **110**: 1070-1079.

2006. **White MM**. Evolutionary implications of a rRNA based phylogeny of the Harpellales. *Mycological Research* **110**: 1011-1024.

2006. Strongman DB, **White MM**. New species of *Lancisporomyces*, *Orphella*, and *Paramoebidium*, endosymbionts of stonefly nymphs from streams in Nova Scotia, Canada. *Canadian Journal of Botany* **84(6)**: 1417-1495.
2006. **White MM**, Siri A, Lichtwardt RW. Fungal insect symbionts (Trichomycetes) in the Great Smoky Mountains National Park and vicinity. *Mycologia* **98**: 333-352.
2006. James TY, Kauff F, Schoch CL, Matheny PB, Hofstetter V, Cox C, Celio G, Gueidan C, Fraker E, Miadlikowska J, Lumbsch HT, Rauhut A, Reeb V, Arnold EA, Amtoft A, Stajich JE, Hosaka K, Sung G-H, Johnson D, O'Rourke B, Crockett M, Binder M, Curtis JM, Slot JC, Wang Z, Wilson AW, Schüßler A, Longcore JE, O'Donnell K, Mozley-Standridge S, Porter D, Letcher PM, Powell MJ, Taylor JW, **White MM**, Griffith GW, Davies DR, Humber RA, Morton J, Sugiyama J, Rossman AY, Rogers JD, Pfister DH, Hewitt D, Hansen K, Hambleton S, Shoemaker RA, Kohlmeyer J, Volkmann-Kohlmeyer B, Spotts RA, Serdani M, Crous PW, Hughes KW, Matsuura K, Langer E, Langer G, Untereiner WA, Lücking R, Büdel B, Geiser DM, Aptroot A, Diederich P, Schmitt I, Schultz M, Yahr R, Hibbett DS, Lutzoni F, McLaughlin D, Spatafora J, Vilgalys R. Reconstructing the early evolution of the fungi using a six gene phylogeny. *Nature* **443**: 818-822.
2004. **White MM**, Lichtwardt RW. Fungal symbionts (Harpellales) in Norwegian aquatic insect larvae. *Mycologia* **96**: 891-910.
2004. Suh S-O, **White MM**, Nguyen NH, Blackwell M. The status and characterization of *Enteroramus dimorphus*: a xylose-fermenting yeast attached to the gut of beetles. *Mycologia* **96**: 756-760.
2003. Ferrington LC, **White MM**, Lichtwardt RW. A new genus of Trichomycetes from *Dixa fluvica* Peters (Diptera: Dixidae). *Aquatic Insects* **25**: 85-94.
2003. **White MM**. First report of *Basidiolum fimbriatum* since 1861, with comments on its development, occurrence, distribution and relationship with other fungi. *Mycological Research* **107**: 245-250.
2001. Lichtwardt RW, **White MM**, Colbo MH. Harpellales in Newfoundland aquatic insect larvae. *Mycologia* **93**: 764-773.
2000. **White MM**, Cafaro MJ, Lichtwardt RW. Arthropod gut fungi from Puerto Rico and summary of tropical Trichomycetes worldwide. *Caribbean Journal of Science* **36**: 210-220.
2000. **White MM**, McLaren IA. Copepod development rates in relation to genome size and 18S rDNA copy number. *Genome* **43**: 750-755.
1999. **White MM**. *Legerioides*, a new genus of Harpellales in isopods and other Trichomycetes from New England, USA. *Mycologia* **91**: 1021-1030.
1999. Misra JK, **White MM**, Lichtwardt RW. *Furculomyces septentrionalis* reveals an unusual distribution for this genus of Harpellales. *Mycologia* **91**: 703-706.
1999. Lichtwardt RW, **White MM**, Cafaro MJ, Misra JK. Fungi associated with passalid beetles and their mites. *Mycologia* **91**: 694-702.
1995. Wyngaard GA, McLaren IA, **White MM**, Sevigny J-M. Unusually high numbers of ribosomal genes in copepods (Arthropoda: Crustacea) and their relationship to genome size. *Genome* **38**: 97-104.

Book chapters and web-based publications

2003. Lichtwardt RW, **White MM**, Cafaro MJ. Freshwater Trichomycetes and their arthropod hosts. In:

Freshwater Mycology. CKM Tsui and KD Hyde eds. Fungal Diversity Press. Hong Kong. pp. 81-100.

2001. **White MM**, Cafaro MJ, Gottlieb AM. Taxonomy and Systematics of Trichomycetes – Past, present and future. In: *Trichomycetes and other fungal groups: Robert W. Lichtwardt commemoration volume*. B Horn and JK Misra eds. Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi. pp. 27-37.

2001. Benny GL, **White MM**. The Classification and Phylogeny of the Zygomycetes and Trichomycetes. In: *Trichomycetes and other fungal groups: Robert W. Lichtwardt commemoration volume*. B Horn and JK Misra eds. Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi. pp. 37-53.

2001. Lichtwardt RW, Cafaro MJ, **White MM**. The Trichomycetes: Fungal Associates of Arthropods. On-line publication (<http://www.nhm.ku.edu/~fungi/Monograph/Text/Mono.htm>).

Manuscripts in review:

2011. *Kandel P, **White MM**. A new species of *Ephemerellomyces* from North America highlights its morphological plasticity and possible intergeneric similarities with other Harpellales (*Submission to Fungal Biology, July 2, 2011; peer reviews in hand, needs minimal revision for return; draft and letter included*).

Manuscripts near submission:

These “in preparation” manuscripts are realistic listings and will be submitted very soon (many others to be expected in the next 2-3 months, which I have not listed). These are all led by or include my BSU students, either undergraduates () or graduates (♠) as my mentorees. I encourage my students to publish and lead-author their research whenever possible and appropriate.*

2011. Schoch, C. et al. (with over 100 authors for the Fungal Barcoding Consortium and including ♠Tretter E, ♠Wang Y, *Johnson E, and **White MM**). The internal transcribed spacer as a universal DNA barcode maker for fungi. Will be submitted to PNAS very soon – *see included draft*.

2011. ♠Wang Y, ♠Tretter E, Lichtwardt RW, **White MM**. Overview of 75 years *Smittium* research, establishing a new genus for *Smittium culisetae* and prospects for future morphological- and molecular-based revisions of the “Smittium” clade. (*Will be submitted to Mycologia in 3-4th week September, 2011*).

2011. *Steele L, **White MM**. A new *Legeriosimilis* and other gut fungi associated with Ephemeroptera from the Owyhee River, Oregon. (*Will be submitted to Mycologia before October, 2011*).

2011. ♠Wilson ER, Smalling, KL, Reilly TJ, *Kandel P, Steele L, *Chamberlin A, Kuivila KM, **White MM**. Field study of gut fungi, trichomycetes, to assess the effects of fungicide pollution on non-target aquatic fungi (*Will be submitted to Environmental Science in October, 2011*).

GRANTS AND AWARDS

Pending:

Submitted July 2011 to National Science Foundation Population & Community Ecology

Project Title: Symbiotic interactions in running water ecosystems: an insect-fungal system

John W. McCreadie (PI, University of Southern Alabama),

Co-PI's Peter H. Adler, Charles E. Beard, Maria A. Kiskowski-Byrne, **MM White (Co-PI, Boise State University)**

Requested amount: \$615,733 with \$253,324 budget for Boise State

Duration/Dates: 3 years; 1-1-12 till 12-31-2014

Received:

National Science Foundation Biological Research Collections Award from DBI-1052719

Project Title: RUI: SWITCH: Southwest Idaho: The Comprehensive Herbaria. An on-line database resource for botanical research and education.

D. Mansfield (PI, College of Western Idaho),

James Smith, Barbara Ertter, **MM White (Co-PIs, Boise State University)**

Requested and Funded amount: \$365,815 with \$88,571 subaward to Boise State

Duration/Dates: 3 years; 7-15-2011 till 7-14-2014

FESIN (Fungal Environmental Sampling and Informatics Network) Travel Award

Nature: NSF (RCN) Sponsored Workshop

Title: **Metamycology and Beyond: Using Fungi in Educational Contexts**

Dates/Location: 7-31-2011 till 8-1-2011 at University of Alaska-Fairbanks Campus

Value: ~\$1000.00. Selection was based on a competitive application.

International Union of Microbiological Societies (IUMS) 2011 Congress/Meeting Travel Award

Symposium Title: Recent research progress on early diverging fungi - their evolution, systematics, and diversity.

Dates/Location: Sept 6-10, 2011 at the Sapporo Convention Center (Sapporo, Japan).

My Role: Convener and Speaker. This symposium on Early-Diverging fungi was **co-organized with Satoshi Sekimoto**. We will discuss recent progress and research on early-diverging fungal research, including evolution, systematics, ecology, and genetics. I also have an oral presentation (in English).

Value: ~ \$1850 (US); per 80K (fr. IUMS) + 40K (no reg. fee) + 40K JPY fr. Mycological Society of Japan (MSJ).

National Science Foundation Revisionary Syntheses in Systematics Award DEB-0918182

Project Title: Collaborative Research: REVSYS: RUI: Phylogenetic and Revisionary Systematics of early-diverging, ecologically unique clades of fungi, Harpellales and Asellariales.

MM White (PI) at Boise State University

Requested: \$469,374, Funded: \$410,000

Duration/Dates: 3 years, 9-1-2009 till 8-31-2012.

Note: This award to Boise State University is linked to another NSF Award to RW Lichtwardt at University of Kansas. There are separate projects and efforts at each institution, and with separate budgets, but we will work collaboratively to achieve the overarching goals of our collaboration(s).

USDA Agriculture and Food Research Initiative (AFRI) Competitive Grants Program Award Project

Title: Functional biodiversity of native mycorrhizae during early development of Big Sagebrush: A Step(pe) towards restoring sagebrush ecosystems.

M Serpe (BSU) (PI), **MM White (Co-PI)**

Requested and Funded Amount: \$149,451

Duration/Dates: 2 years, 1-1-2010 till 12-31-2011.

Travel Award to attend NSF Sponsored Workshop

Nature: RCN Collections Web Workshop

Title: I: Opportunities and Challenges of Small Collections

Dates/Location: April 19-20, 2008, at Michigan State University, East Lansing, Michigan.

Value: ~\$925.00. Selection was based on a competitive application.

Travel Award to attend the NSF Sponsored Workshop

Nature: NSF (RCN) **Fungal Environmental Sampling and Informatics Network (FESIN)**

Dates/Location: August 2-3, 2008 at Midwest Airlines Center, Milwaukee, Wisconsin.

Value: \$1097.00. Selection was based on a competitive application.

National Science Foundation Biotic Surveys & Inventories Award DEB-0344722

Project Title: Biodiversity of cryptic fungal symbionts, Harpellales, living within the guts of aquatic insects in North America.

MM White (PI) and RW Lichtwardt (Co-PI) at University of Kansas

Requested: \$487,536.00, July 10, 2003; Funded: \$400,000.00 (for three years)

Duration/Dates: 3 years, 1-29-2004 till 1-28-2007.

National Science Foundation Award DEB-0108110

Project Title: Speciation and dispersal of fungal symbionts of Insects (Harpellales) in Eastern North America and Europe.

RW Lichtwardt and **MM White**, Co-PIs.

Funded Amount: \$200,000.00 Duration/Start: 2 years, September 6, 2001.

Mycological Society of America Martin-Baker Award, for a research project entitled "Resolving the Polyphyly of *Smittium* (Harpellales) using RPB1 & RPB2". Hilo, Hawaii, August, 2005. **\$2200.00.**

Department of Ecology and Evolutionary Biology, Travel Award for International Symbiosis Society Meeting Halifax, Nova Scotia, August, 2003. **\$200.00.**

Plant Biology Program, Summer Research Award, Dept. of Ecology and Evolutionary Biology for survey of Yosemite National Park, May 2001 and to travel to MSA meeting, August, 2001. **\$1998.00.**

Department of Ecology and Evolutionary Biology, Travel Award for MSA meeting in Salt Lake City, Utah, August, 2001. **\$200.00.**

Mycological Society of America Melvin Fuller Mentor Travel Award, for travel to annual MSA meeting in Salt Lake City, Utah, August, 2001. **\$500.00.**

Mycological Society of America Research Award for Poster Presentation Titled: Rediscovery of a fungal pathogen of blackflies in Canada. Annual meeting, Burlington, Vermont. August, 2000. **\$100.00.**

Plant Biology Program, Summer Research Award, Dept. of Ecology and Evolutionary Biology for travel to MSA meeting, July-August, 2000 and reprint costs. June, 2000. **\$1500.00.**

Graduate Student Travel Fund Award, University of Kansas, for poster presentation, Rediscovery of a fungal pathogen of blackflies in Canada at the MSA meeting, Burlington, Vermont. July, 2000. **\$300.00.**

Arthur J. Mix Award. Research proposal: An investigation of ovarian invasion and sterilization in populations of blackflies in Newfoundland. Plant Biology Program, Department of Ecology and Evolutionary Biology, University of Kansas. May, 1999. **\$1171.90.**

D.J. Obee Award. A research award to cover the cost of photographic supplies and processing for proper documentation of Trichomycetes. Department of Botany, University of Kansas. June, 1998. **\$440.00.**

PRESENTATIONS AT NATIONAL AND §INTERNATIONAL MEETINGS (* are undergraduates)

§2011. **White MM**, Tretter ED, Wang Y, *Johnson EM, Guardia Valle L, Strongman D, Kurihara Y, Degawa Y. Phylogeny and systematics of trichomycetes and early-diverging fungi. Presented Sept 9, 2011 at the International Union of Microbiological Societies (IUMS) 2011 Congress at the Sapporo Convention Center (Sapporo, Japan). Oral presentation by **White MM (in English)**.

Symposium Title: Recent research progress on early diverging fungi - their evolution, systematics, and diversity. **My Role:** Convener and Speaker. This symposium on Early-Diverging fungi was **co-organized with Satoshi Sekimoto**. We will discuss recent progress on early-diverging fungal research, including evolution, systematics, ecology, and genetics. *Our goal* was for speakers from multiple countries and continents. **I represented the USA** and Sekimoto, Canada. Another speaker is from Germany and two others from Asia.

2011. Wang Y, Tretter ED, Lichtwardt RW, **White MM**. Teasing apart the polyphyletic “Smittium” clade of Gut Fungi (Harpellales): merging multi-gene molecular and morphological margins. Presented August 2, 2011 at the Mycological Society of America (MSA) Meeting, Fairbanks, Alaska. Oral presentation, by Wang.

2011. Tretter, ED, *Johnson, EM, Wang, Y, Strongman D, Guardia Valle, L, **White MM**. An Expanded Phylogeny of the Trichomycete Fungi. Presented August 2, 2011 at the Mycological Society of America (MSA) Meeting, Fairbanks, Alaska. Oral presentation, by Tretter.

2011. Wilson ER, Smalling KL, Reilly TJ, *Steele L, *Kandel P, *Chamberlin AB, **White MM**. Beyond gut feelings: how are trichomycetes affected by fungicides in aquatic systems? Presented August 3, 2011 at the Mycological Society of America (MSA) Meeting, Fairbanks, Alaska. Oral presentation, by Wilson.

2011. Carter K, Serpe M, **White MM**. Identification of mycorrhizal species associated with *Artemisia tridentata* ssp. *wyomingensis* in Southwestern Idaho. Presented August 3, 2011 at the Mycological Society of America (MSA) Meeting, Fairbanks, Alaska. Poster presentation, by White.

2010. Tretter ED, Strongman DB, Guardia Valle L, **White MM**. A preliminary multigene phylogeny of the clade *Orphella*. Presented June 28, 2010 at the Mycological Society of America (MSA) Meeting, Lexington, Kentucky. Poster presentation, by Tretter.

2010. Wang Y, Tretter ED, **White MM**. Toward a multi-gene phylogeny of the “Smittium” clade of gut fungi. Presented June 28, 2010 at the Mycological Society of America (MSA) Meeting, Lexington, Kentucky. Poster presentation, by Wang.

2010. Wilson ER, Steele L, Reilly T, Smalling K, *Oman S, **White MM**. Potential utility of trichomycetes as bioindicators of fungicide-impacted waterways. Presented June 30, 2010 at the Mycological Society of America (MSA) Meeting, Lexington, Kentucky. Poster presentation, by Wilson.

2010. Carter K, Davidson B, **White MM**, Shaw N, Serpe M. Identification of mycorrhizae associated with *Artemisia tridentata* spp *wyomingensis* in Southwestern Idaho. Presented May 17-21, 2010 at the National Native Seed Conference on Native Plant Materials Development, Production & Use in Habitat Restoration. Poster presentation, by Shaw.

2010. Reilly TJ, Smalling KL, **White MM**, Orlando JL, Kuivila KM, Battaglin WA, Meyer MT, Sandstrom MW. Design and Implementation of a study to determine the occurrence and fate of fungicides in aquatic systems. Presented at the NWQMC meeting in Denver. Poster presentation, by Reilly.

2009. **White MM**. Trichomycetes - habitat, isolation and culture. Invited symposium presentation for Symposium entitled “Teaching with basal fungal lineages; chaired by Dr. Martha Powell, U. of Alabama. Approximate 30 min. oral presentation July 29, 2009 at the Mycological Society of America (MSA) Meeting, Snowbird, Utah.

2009. Bench ME, **White MM**. New species and first records of trichomycetes from immature aquatic insects in Idaho. Presented July 27, 2009 at the Mycological Society of America (MSA) Meeting, Snowbird, Utah. Poster presentation, by White.

2009. *Oman SJ, **White MM**. *Baltomyces*, a rare and unusual gut fungus newly discovered in Idaho isopods: 1st report since the original genus description. Presented July 28, 2009 at the Mycological Society of America (MSA) Meeting, Snowbird, Utah. Poster presentation, by Oman.

2008. Bench ME, **White MM**. Biodiversity and seasonality of gut fungi associated with arthropods in Cottonwood Creek, Boise, Idaho. Presented November 19, 2008 at the Entomological Society of America Meeting, Reno-Sparks Convention Center, Reno, Nevada. Poster presentation, by Bench.

2008. Bench ME, **White MM**. Biodiversity and seasonality of gut fungi in an ephemeral aquatic system and urban setting. Presented August 11, 2008 at the Mycological Society of America (MSA) Meeting, Penn State University, State College, Pennsylvania. Poster presentation, by White.

2007. **White MM**, Siri A, Ferrington LC, Strongman DB. New records of *Austrosmittium* in North and South America. Presented August 6-9, 2007 at the MSA meeting, Louisiana State University, Baton Rouge, Louisiana. Poster presentation.

§2006. **White MM**, Lichtwardt RW. Trichomycetes: major taxonomic revisions based on molecular phylogenies. Invited oral presentation delivered (by Lichtwardt) August 21, 2006 at IMC8 (8th International Mycological Congress), Cairns, Australia as part of the Symposium entitled: Phylogenetic biology of fungal and fungal-like phyla [chairs: Rytas Vilgalys (Duke University) and Joseph W. Spatafora (Oregon State University)].

2005. **White MM**, Lichtwardt RW. Phylogeny of insect-associated gut fungi with emphasis on the Harpellales. Presented August 4, 2005 at the MSA meeting, Hilo, Hawaii. Oral Paper.

2004. **White MM**. Reflections of Trichomycetology by a PEET trainee. Invited Commentary (15 mins.) presented July 20, 2004 at the MSA meeting, Asheville, North Carolina.

§2003. **White MM**, Cafaro MJ, Lichtwardt RW. What are gut fungi? Molecular data reveals phylogenetic surprises among the Trichomycetes (Zygomycota). Presented at the 4th International Symbiosis Society Meeting, Halifax, Nova Scotia. Oral paper.

2003. **White MM**, Lichtwardt RW, Guardia Valle L, Strongman DB. *Orphella* – an unusual gut fungus associated with stoneflies. Presented July 30-31 at the MSA meeting, Asilomar Conference Center, Pacific Grove, California. Poster presentation.

2003. **White MM**, Lichtwardt RW. Plecoptera hosts harboring gut fungi (Harpellales) in North America: seeking advice and collaboration. Presented June 7, 2003, at the 7th North American Plecoptera Symposium, Western State College, Gunnison, Colorado. Oral paper.

2003. **White MM**. An overview of gut fungi (Trichomycetes) associated with Simuliidae. Presented February 2, at the 1st NABFA (North American Black Fly Association) Meeting, Archbold Biological Station, Lake Placid, Florida. Oral paper.

§2002. **White MM**. Progress toward a phylogeny of the Harpellales based on rDNA. Paper, delivered as part of contributed symposium, August 13, at the IMC7 (7th International Mycological Congress), Oslo, Norway. Invited paper presentation.

§2002. Weir A, Hughes M, **White MM**, Cafaro MJ, Suh S-O, Blackwell M. Biodiversity of arthropod-associated fungi: What do we know? What can we predict? Invited paper, delivered (by Weir) as part of

contributed symposium, August, 2002, at the IMC7 (7th International Mycological Congress), Oslo, Norway. Oral paper presentation.

2002. Cafaro MJ, **White MM**, Lichtwardt RW. Toward a molecular based phylogeny of the Trichomycetes (Zygomycota). PEET IV Meeting: Berkeley University, Berkeley, California. June 1-5. Poster presentation.

2001. **White MM**. Exploring the relationships of gut fungi (Harpellales) using ribosomal DNA. MSA Meeting, Salt Lake City, Utah. August 25-29. Contributed paper.

2000. **White MM**, Lichtwardt RW, Colbo MH. Rediscovery of a fungal pathogen of blackflies in Canada. MSA Meeting, University of Vermont, Burlington, Vermont. July 29 - August 3. Poster presentation.
Received one of two MSA Research Awards for selection as best poster.

2000. Colbo MH, Lichtwardt RW, **White MM**. The Trichomycetes of Simuliidae with particular reference to Newfoundland, Canada. International Meeting of Blackfly Workers: Blackflies in the New Millenium. Brock University, St. Catherines, Ontario, Canada. June 17-21. Paper presentation (by Colbo).

2000. Colbo MH, **White MM**, Lichtwardt RW. A fungal pathogen rediscovered in black flies from Canada. International Meeting of Blackfly Workers: Blackflies in the New Millenium. Brock University, St. Catherines, Ontario, Canada. June 17-21. Poster presentation (by Colbo).

2000. Lichtwardt RW, Cafaro MJ, **White MM**. Toward a new monograph of the Trichomycetes, Fungal associates of arthropods. PEET III Meeting: The monographic process. Smithsonian Institution, Washington DC. March 25-27. Poster presentation.

1999. **White MM**. *Basidiolum fimbriatum*: first documentation since 1861? MSA Meeting, St. Louis, Missouri. August, 1999. Poster presentation.

1999. **White MM**, Cafaro MJ, Lichtwardt RW. Trekking for Trichos: a survey of Trichomycetes in Puerto Rico. MSA Meeting, St. Louis, Missouri. August, 1999. Poster presentation..

1998. **White MM**, Lichtwardt RW, Misra JK. Fungi associated with passalid beetles and their mites. *Inoculum* **49**(2): 54. MSA Meeting. San Juan, Puerto Rico. June, 1998. Oral presentation.

UNDERGRADUATE PRESENTATIONS WITHIN IDAHO INSTITUTIONS

(* are undergraduates)

2011. *Kandel P, Tretter E, Wang, Y, *Johnson, E, **White MM**. Multigene phylogeny of the Legerio-clade (Gut Fungi, Trichomycetes). 10th Annual INBRE Summer Research Conference, Moscow, Idaho. August 2, 2011. Poster presentation by Kandel, an INBRE summer scholar in MMW's Mycology Laboratory).

2011. *Kandel P, Wilson E, *Chamberlin A, *Steele L, *Cole D, *Carrie D, **White MM**. Diversity of Trichomycetes in Larval Aquatic Insects from Dry Creek, Idaho. Boise State University, Annual Undergraduate Research and Scholarship Conference. April 11, 2011. Poster presentation by Kandel.

2011. *Reynolds N, *Hoefler Z, *Kandel P, *Chamberlin A, *Steele L, Wilson E, **White MM**. Prospecting in Idaho? Don't look for gold, look for gut fungi! Boise State University, Annual Undergraduate Research and Scholarship Conference. April 11, 2011. Poster presentation by Reynolds and Hoefler.

2011. *Oman S, *Kandel P, *Steele L, *Langehennig B, **White MM**. Extended Studies of *Baltomyces styrax* in Idaho and expanded distribution in the USA. Boise State University, Annual Undergraduate Research and Scholarship Conference. April 11, 2011. Poster presentation by Oman.

2010. *Kandel P, *Cole D, Wilson E, *Carrie D, Tretter E, Wang Y, Steele L, **White, MM**. First documentation of the European gut fungus, *Ephemerellomyces*, and other insect associated endosymbionts in the Dry Creek drainage, Boise, Idaho. Boise State University, College of Arts and Sciences Undergraduate Research and Scholarship Conference. April 12, 2010. Poster presentation by Kandel and Cole.

GRADUATE PRESENTATIONS WITHIN INSTITUTIONS (* are undergraduates)

2011. Wang Y. Multigene testing of the phylogenetic stability of *Smittium*. Oral presentation at the BSU First Annual Graduate Student Research Symposium, Boise, Idaho. March 18, 2011. (**White, MM, Advisor**)

2011. Wilson E. Exploring the implications of fungicides for non-target aquatic fungi. Oral presentation at the BSU First Annual Graduate Student Research Symposium, Boise, Idaho. March 18, 2011. (**White, MM, Advisor**)

2011. Tretter E. Specialized primers for the amplification of unknown fungal sequences from mixed genomics. Poster presented at the BSU First Annual Graduate Student Research Symposium, Boise, Idaho. March 18, 2011. (**White, MM, Advisor**)

2011. Carter K, Identification of Mycorrhizal Species Associated with *Artemisia tridentata* spp. *wyomingensis* in Southwestern Idaho. Poster presented at the BSU First Annual Graduate Student Research Symposium, Boise, Idaho. March 18, 2011. (**White, MM, Co-Advisor**)

2011. Wilson E, Smalling KL, Reilly TJ, *Steele L, *Kandel P, *Chamberlin A, *Oman S, **White MM**. Assessing the effects of fungicides on non-target aquatic fungi in Southern Idaho. Presented at the 21st Annual Water Quality Workshop: Monitoring, Assessment, and Management, Boise, Idaho February 9, 2011.

2010. **White MM**, Wilson E, *Steele L. Potential utility of Trichomycetes as bioindicators of fungicide-impacted waterways. Presented as Part B of a Special two part seminar at the Idaho Water Resources Institute/US Geological Sciences Survey, Boise, Idaho, April 1st.

PUBLIC INTEREST/OUTREACH (*denotes undergraduates)

*Sarah Oman, Emma Wilson and *Eric Johnson gave a laboratory tour and technique demonstration for **High School students from Meridian, Idaho**. May 5, 2011.

*Sarah Oman, Emma Wilson and *Eric Johnson gave a laboratory tour and technique demonstration for **High School students from Salmon, Idaho**. April 21, 2011.

Emma Wilson – led an **outreach event, April 6-7, 2011**, for Owyhee High School Students at the Reynolds Creek experimental watershed. While there she conducted a workshop where she introduced the students to the collection, identification and dissection of aquatic insects in the search for trichomycetes. The results of the outreach activity were published by Erin Ryan in Boise State’s Update, online at: <http://news.boisestate.edu/update/2011/04/21/owyhee-high-schoolers-hit-the-field-with-boise-state-grad-student/>

Interviewed and quoted for an article by Leah Sherwood in Boise State’s Update, in a piece entitled: Beyond Hallowed Halls: Universities Reach Out to Youth. My quote was: “The ultimate part of education for many of us is the experience of it: the touching, feeling, smelling and seeing — that drives your ideas and your thinking...Mentorship also plays a major role. Anything that can help bring those aspects together should be fostered.” This is truly how I approach and try to merge my teaching and research programs.

Online link: <http://news.boisestate.edu/update/2010/07/02/beyond-hallowed-halls-universities-reach-out-to-youth/>

Led a **local foray** (in Veterans Park, Boise) for Myxomycetes with world expert Dr. Harold Keller, June 13, 2010. Accompanied by some of my graduate and undergraduate students. Later published a brief article summarizing the event in *Inoculum*, the Newsletter of the Mycological Society of America. Online link: [http://msafungi.org/wp-content/uploads/Inoculum/61\(4\).pdf](http://msafungi.org/wp-content/uploads/Inoculum/61(4).pdf) (see page 31)

Participated in 2nd annual **BIOBLITZ, June 5-6, 2009** in Halifax, Nova Scotia. Provided fungal taxonomic expertise, especially to identify gut fungi from larval aquatic insects. Was a networking opportunity, with numerous taxonomic experts, especially my colleagues Drs. Doug Strongman and Murray Colbo, as well as an opportunity to engage the general public, since it was an open event.

Newspaper article, published **May 7, 2003**. By Kelley Weiss, staff writer for the University Daily Kansan. "Insects help fungi survive in symbiotic relationship". Based on interview with **MM White & RW Lichtwardt**. Page 1A, cont. 10A.

FIELD EXPERIENCE COLLECTING TRICHOMYCETES

USA

Boise, Idaho and vicinity. Surveys were **initiated in February 2007** and have continued periodically with expansion of future sampling efforts expanding outward from the capitol – **a total of 30 sites have been sampled**. One biodiversity **manuscript is in press with MSc graduate student Molly Bench**. Manuscripts from laboratory experiences with **undergraduates Oman and Kandel, respectively (as first authors) are in press and submitted**. Other manuscripts in preparation include undergraduate Steele with a new species and records from the Owyhee Mountains. Steele and others are working with current graduate student Emma Wilson on preliminary data to compare fungi from fungicide impacted waterways (near Parma, ID) with those from more pristine reference sites (near Boise).

Cascade Mountains, Willamette National Forest, while based at the **H.J. Andrews Experimental Forest Research Station**, Blue River, **Oregon**, August 29-September 13, 2005 (with R.W. Lichtwardt). **Several new species of Harpellales to publish in a manuscript that is in progress.**

Great Smoky Mountains, Tennessee and North Carolina. Collected gut fungi in various streams and freshwater lentic systems in **GSMNP and vicinity** July 21-August 4, 2004. **Findings (including an unusual new genus) have been reported in one publication.**

Tampa Bay, Florida. Collected marine intertidal isopods (*Ligia* sp.) infested with gut fungi. February 5, 2003.

California. 1) Yosemite National Park. First survey of freshwater hosts, with **at least one (but probably two) new species of gut fungi to publish**. May, 2001; August, 2003. **2) Bodega Bay and vicinity, while based at the Marine Station.** Sampled marine crustaceans and freshwater insects – **noteworthy range expansions** for several species. June 5-9, 2002.

Wasatch Mountains, Utah. Survey of larval aquatic insects; at least **one new species** of gut fungus to describe from the Provo River. August - September, 2001. **Revisited Utah during August 2009, and added more records of gut fungi from that state.**

North Atlantic Coast. Near **Wood's Hole Oceanographic Institute**, March 24-26, 1998.

Puerto Rico. First survey of marine and freshwater hosts of Trichomycetes, including sites near El Verde cloud forest. June 18-24, 1998. **Findings have been reported** in one publication.

Northern Plains, USA. **New records** of gut fungi in larval aquatic insects from streams and falls in South Dakota. March 14, 1998.

New England. Collection of larval insects from streams and falls in Massachusetts and New Hampshire, for examination of Trichomycetes, November 7-8, 1997, resulting in **one new genus in one publication**. Several sites in Green Mountains of **Vermont**, August 1-2, 2000, resulted in **several new records**.

Rocky Mountains, Colorado. Collection of larval insects for examination of Trichomycetes in Rocky Mountain National Park. September 27-28, 1997. **One new species** with notes on unexpected distribution, **reported in one paper**. Subsequent survey June 3, 2003 with probable new species in aquatic beetles.

Ozark Plateau Mountains. Collections of larval insects and other arthropod hosts of Trichomycetes in AR, OK and MO. March 25-27, 1997.

Midwestern Plains (KS, MO, OK). Numerous surveys for gut fungi August 1997-June 2006 while based at The University of Kansas, including training several undergraduates in the methods involved. Numerous new records and range extensions – at least one new species to describe.

CANADA

British Columbia. July 3-19, 2006. First survey of gut fungi in BC (with D. Strongman), in and near the **Kootenay Rocky Mountain Range**, based at Selkirk College, Castlegar. **One manuscript to follow, but slide vouchers must be reviewed once more first.**

Ontario. May 16-24, 2004. A survey of Trichomycetes in **Algonquin Provincial Park** (with D. Strongman) **and near Guelph** (in collaboration with S. Marshall). **Paper was published in 2008 with 7 new species among the 32 reported from Ontario.**

Nova Scotia. Freshwater and marine systems have been sampled on: December 29-30, 1997; September 20-21, 1998; December 10-12, 1998; June 3-5, 1999; February 6-10, 2000; October 7-15, 2000, December 26-28, 2001. The data gathered is being consolidated and summarized (with D. Strongman, Saint Mary's University, Halifax). The **first report of gut fungi from Nova Scotia is published (6 new species of fungal endosymbionts in stonefly hosts)** and one more paper is in process.

Newfoundland. May 17-June 2, 1999. **Two papers published. The first recorded four new species of Harpellales and the second used material collected to establish ovarian cysts as Harpellales (using rDNA sequence data)** (with R.W. Lichtwardt and M.H. Colbo).

NORWAY

Two major surveys undertaken with R.W. Lichtwardt. The first was completed May 1-23, 2002 and focused on two major areas: 1) near Oslo, while based at the University of Oslo and 2) in western Norway, while based at the University of Bergen's field station in Ekse. Over **250 samples of gut fungi (Harpellales)** were preserved for DNA extraction and sequencing (in progress). After a second survey, August 17 - September 2, 2002, based at Lake Snaasvatnet Field Station (operated by University of Trondheim), our **taxonomic findings (9 new species) were consolidated and have been published in 2002 as the first major survey of Norwegian Harpellales (Trichomycetes).**

MEXICO

Led the first two expeditions to survey gut fungi in Mexico [with Laia Guardia Valle (Spain) and Matias Cafaro (Puerto Rico)]. **1st survey** was based in **Xalapa** (at Instituto de Biología et Ecología) Nov. 3-19, 2005, included training one Mexican graduate student (Ricardo Garcia-Sandoval). **The 2nd survey** was based at **Los Tuxtlas Field Station (UNAM)** July 21-August 13, 2006. **New species (both Harpellales and Asellariales) for at least two joint papers were anticipated initially (and those are now published) but we believe we have enough data for one more in the future, dealing with the protistan symbionts also recovered.**

SYNERGISTIC ACTIVITIES AND SERVICE

2011. **Co-organized and conducted a workshop with Dr. Satoshi Sekimoto** Sept 9, 2011 at the International Union of Microbiological Societies (IUMS) 2011 Congress at the Sapporo Convention Center (Sapporo, Japan). **Symposium Title:** Recent research progress on early diverging fungi - their evolution, systematics, and diversity. **My Role:** Convener and Speaker. This symposium on Early-Diverging fungi discussed recent progress on early-diverging fungal research, including evolution, systematics, ecology, and genetics. *Our goal* was for speakers from multiple countries and continents. **I am represented the USA** and Sekimoto, Canada. Another speaker was from Germany and two others from Asia.

2007-2011. Participated in annual Mycological Forays (mostly macrofungi), with Mycological Society of America members.

2004-2011. Worked with trichomycetologists from other countries on collaborative projects, particularly biodiversity and description of new taxa, and training students (see Thailand paper). Others have used online videos tutorials at my laboratory webpage.

2009. Participated, as an invited speaker, in a symposium entitled "Teaching with basal fungal lineages" (Chaired by Dr. Martha Powell, U. of Alabama) at the Mycological Society of America (MSA) Meeting, Snowbird, Utah. The goal was to demonstrate and explain how understudied fungal groups could be used in the classes etc. of the participants. I also discussed how to utilize the gut fungi and how, as endosymbionts, they could be used from a number of possible angles in teaching various courses.

2009. Participated in the 2nd annual Bioblitz, Halifax, Nova Scotia, June 5-6, 2009. Opportunity to engage children and general public on gut fungi and aquatic insects. Web Link: www.smu.ca/bioblitz/home.html

2007, 2008. Member of judging team for student posters and/or oral presentations at the annual Mycological Society of America meetings.

2005. Workshop/Symposium on Phylogenetic Studies of Trichomycetes [with RW Lichtwardt (USA) & Hiroki Sato (Japan)] at the Mycological Society of America (MSA) meeting, Hilo, Hawaii.

2003. Workshop on Trichomycetes for participants of the 4th International Symbiosis Society Meeting – Halifax, Nova Scotia. Team taught with Dr. D Strongman. August 20, 2003.

1999-2001. Graduate student representative, Faculty Search Committees (Positions: Plant Systematist and Mycologist), Dept. Ecology and Evolutionary Biology, University of Kansas. Co-chair of graduate student organization for Center for Teaching Excellence (CTE) Faculty Award nomination committee, Dept. Ecology and Evolutionary Biology, University of Kansas.

1998. Graduate student representative for Dept. of Botany Faculty meetings (Jan.-Aug.) and Promotion and Tenure Committee (Sept. - Nov.) at University of Kansas.

1998-present. Member, amateur mycology groups, the Kaw Valley Mycological Society, Lawrence, Kansas (1998-2006) or the Southern Idaho Mycological Association, Boise, Idaho (2007-present).

1998. Introduced kindergarten classes to microscopic observation of aquatic invertebrates (Sydney, Nova Scotia).

1997-present. Periodically, have introduced undergraduate laboratory classes and grade school children to field collection of invertebrates from freshwater aquatic streams, emphasizing their internal symbionts and overall ecological role. Example at:

www.urbanecologycenter.org/newsletter/2008/novdec.pdf (see page 4) and the a summary of the 2nd annual Bioblitz, Halifax, Nova Scotia (June 5-6, 2009) at www.smu.ca/bioblitz/home.html

PROFESSIONAL AFFILIATIONS AND SOCIETAL MEMBERSHIPS

Asociación Latinoamericana de Micología
Ecological Society of America
International Symbiosis Society
Kaw Valley Mycological Society
Mycological Society of America
North American Benthological Society
North American Mycological Association
Sigma Xi
Southern Idaho Mycological Association
Xerces Society

COLLABORATORS AND OTHER AFFILIATIONS

Collaborators (abbreviated list):

Gerald Benny	Dept. of Plant Pathology, University of Florida, Gainesville, Florida.
Matías Cafaro	Dept. of Biology, University of Puerto Rico, Mayaguez, Puerto Rico.
Leonard C. Ferrington, Jr.	Dept. of Entomology, University of Minnesota, St. Paul, Minnesota.
Tim James	Dept. of Ecology & Evol. Biol., U. of Michigan, Ann Arbor, Michigan.
Robert Lichtwardt	Dept. Ecol. & Evol. Biol., University of Kansas, Lawrence, Kansas.
J.K. Misra	Sri J.N.P.G. College, Lucknow, India.
Kerry O'Donnell	NCAUR, USDA, Peoria, Illinois.
Doug Strongman	Dept. of Biology, Saint Mary's University, Halifax, Nova Scotia, Canada.
Junta Sugiyama	Tokyo Office, TechnoSurago Co., Ltd. Chiyoda-ku, Japan.
Y. Tanabe	Laboratory of Intellectual Fundamentals for Environmental Studies, National Institute for Environmental Studies, Ibaraki, Japan.
Laia Guardia Valle	Facultat de Ciències, UAB, Barcelona, Spain.

Graduate advisors:

Ian A. McLaren (M.Sc.) Dept. of Biology, Dalhousie University, Halifax, NS, Canada.
Robert W. Lichtwardt (Ph.D.) Dept. Ecol. and Evol. Biol., U. Kansas, Lawrence, Kansas.
Robert W. Lichtwardt (Postdoctoral advisor) Dept. Ecol. and Evol. Biol., U. Kansas, Lawrence, Kansas.

TEACHING ASSIGNMENTS at Boise State University, Boise, Idaho USA:

BOT 330/330G Mycology Lecture & Laboratory, Fall 2007--10; 19/1 enrolled 2007; 13 in 2008, 15/4 in 2009; 21/1 in 2010; 17/3 in 2011.

BIOL 192 General Biology II (Lecture section – team taught Dr. J Carnes), Spr. 2008 (38 enrolled); team taught with Dr. I Robertson), Spr. 2010 (164 enrolled); team taught with Dr. J Forbey), Spr. 2011 (175 enrolled).

BIOL 279/479/579. Research in the Biol. Sciences/Biology Seminar Series, Spr. 2008 (2/8/2 enrolled), Spr 2010 (3/4/1 enrolled)

BIOL 496. Independent Study (Undergraduate level), Spr. 2008 (1 enrolled), Spr., Summer, Fall 2009 (2, 1, 2 enrolled); Fall 2010 (1 enrolled); Spr. 2011 (4 enrolled).

BIOL 293. Internship (UGrad) Spr. 2010 (2 credits).

BIOL 493 Internship (UGrad) Fall 2010 (2 credits); Spring 2011 (2 credits).

BIOL 497/597 Adv Topics – Symbiosis (= 2 credits) in Spr. 2009 (8/3 enrolled), (= 3 credits) in Spr. 2011 (11/6).

BIOL 498/598 Graduate Seminar “Rivers & Microbes: the microbial ecology of anthropogenically influenced fluvial systems” – team taught with Dr. K. Feris (Fall 2008, 2/3 enrolled), team taught with Drs. Feris and Forbey (Spr. 2009, 0/4 enrolled).

BIOL 593-019 Thesis Research (ongoing enrollment)

BIOL 696. Directed Research (Graduate Level), Fall 2008 (1 enrolled)

Graduate students:

Current:

Yan Wang (Fall 2009 – present)

Emma Wilson (Spring 2010 – present)

Eric Tretter (Spring 2010 – present)

Additionally, **Keith Carter** (Fall 2009 – present), listed as his **Co-Advisor**, but with Dr. Serpe as the clear lead.

All are in **M.Sc. Biology Program**.

Completed:

Molly Bench, M.Sc. (Aug 2007– Spring 2009).

Undergraduate students trained – either as independent study (†), internship (‡), volunteer (¥) or paid research assistants (§)

Current:

Prasanna Kandel^{¥†§} (Fall 2009 – present)

Eric Johnson^{‡§} (Spring 2011 – present)

Justin Gause[§] (Summer 2011 – present)

Nicole Reynolds[†] (Spring 2011 – present)

Previous:

Mary Adams[¥] (Summer 2011)

Sarah Oman^{‡§} (Spring 2008 – October 2009; Spring 2011 – Summer 2011)

Lalor, Steve[¥] (Summer 2011)

Alison Chamberlin[§] (Summer 2010 – Summer 2011)

Zach Hoefler[†] (Spring 2011)

Katie Sorenson[†] (Spring 2011)

Lance Steele^{‡§} (Summer 2009 – Winter 2010)

Matthew Laramie[†] (Fall 2010)

Korrine Wade[§] (Summer 2010 – Fall 2010)

Donavon Carrie[§] (Spring 2010 – Summer 2010)

Daleesa Cole[§] (Winter 2009 – Summer 2010)

Vivian Zapata[†] (Fall 2009)

Susan Stacey[†] (Spring 2009); **Barbara Langehennig**[†] (Spring 2008)

EXAMPLES OF SERVICE (TAKEN FROM ABOVE)

(for Merlin White, from 2007–2011 at Boise State University)

A. Professional service

- a. Professional committees and organizational involvement
 - i. Member of the Mycological Society of America (MSA) Graduate Awards Committee. Reviewed 12 applications and came to mutual decision on awards (via email) with other committee members. Spring 2007.
 - ii. Judge (with other MSA society members) for student poster awards at the annual Mycological Society of America Meeting. Discussed posters with students and met with committee members to render decision and presentation of Award. Summer 2007 & 2008, Mycological Society of America Meeting.
- b. Editorial services
 - i. As **Associate Editor for *Mycologia***, I completed paperwork, correspondence and improvements for numerous manuscripts *from 2007–2010*.
 - ii. Have been a **peer reviewer** for the following journals (with # of reviews /year).
 1. Evolutionary Bioinformatics (1/2007)
 2. Fungal Diversity (1/2008)
 3. Journal of Invertebrate Pathology (1/2009)
 4. Mycologia (2/2007; 1/2008)
 5. Mycological Research (1/2008)
 6. Mycotaxon (1/2010)
- c. Proposal review
 - i. I usually do, on average, one or two reviews of NSF proposals each year
- d. Collections Based Contributions
 - i. Deposited several pure slant cultures of fungi from the Fall 2007 Mycology class to the USDA collection in Peoria, IL. Cultures were sent March 10, 2008 to Dr. Stephen Peterson who was to accession them in the collection, which has few isolates from Idaho. These resources are available for teaching/research purposes.

B. Institutional service

- a. Committees
 - i. Member of BSU Biology Research Committee (2007-present). Tasks have included everything from advancing research in our department to design and printing of the 1st Departmental Newsletter (see below also).

- ii. Member of Faculty Search Committee (2010) for Ecosystems Ecologist Position.
- b. University-related projects
 - i. Organized and led a 1-day Fungal Foray (field trip) for Mycology students (BOT 330 & BOT 330G) each fall from 2007-2011; sites have included Grimes Creek, Herrick Reservoir or Sage Hen Reservoir (in 2011), ID.
- c. Assigned institutional responsibilities
 - i. Departmental Newsletter development and initiation. Over the course of several months, I collected articles and images, some of which were used in the 1st and 2nd Biological Sciences Update. With many images and stories, I believe that we, as the research committee, did a “professional” job. I continue to serve on the research committee in this capacity. I may have become the unofficial dept. photographer during this process, and look forward to doing this in 2011 and beyond. These kinds of products are really important for outreach, endowed funds etc.
 - ii. Advised numerous students each year (2007-2011)
 - iii. Participated in the Commencement Ceremonies.
- d. Other service activities that benefit the University
 - i. Serve on Advisory Board for Canadian Studies; 1st meeting was October 28, 2010.
 - ii. Have written many letters of reference for former/current students at BSU.
 - iii. Also nominated two students for a Wallace Kay writing competition, Jan 2010.

C. Community Service

- a. Led a **local foray** (in Veterans Park, Boise) for Myxomycetes with world expert Dr. Harold Keller, June 13, 2010. Accompanied by some of my graduate and undergraduate students. Later published a brief article summarizing the event in *Inoculum*, the Newsletter of the Mycological Society of America.
Online: [http://msafungi.org/wp-content/uploads/Inoculum/61\(4\).pdf](http://msafungi.org/wp-content/uploads/Inoculum/61(4).pdf) (see p. 31)
- b. Attended 2nd annual BIOBLITZ, June 5-6, 2009 in Halifax, Nova Scotia. Used fungal taxonomic expertise, especially identifying gut fungi from larval aquatic insects. Interacted with general public, great outreach opportunity. Ultimately, we also prepared a paper on a new fungal species we discovered there.
- c. Met with Teacher from Montpelier, ID, and her (~12) students to answer Evolutionary Biology questions in advance of their “Academic Decathlon Event” in Boise, ID. I answered a series of questions from them (was truly impressed by them really) and assured them that they were ready for the competition! I did try to

provide some explanation on a couple more complex concepts, but it was a most impressive sense that I was left with, regarding the potential of these young scholars. March 12, 2009.

- d. I created an instructional DVD called “How to Collect and Dissect Gut Fungi” Version 1 that was demonstrated and distributed at the Mycological Society of America (MSA) Meeting in August 2007. Several copies of the DVD were given to mycologists for peer review and for use in their Mycology courses/workshops with positive feedback received. These were since placed online at my laboratory homepage. (see supplement to this section.)
- e. Volunteer at Idaho Native Plants Society Annual Sale, Boise ID, April 21, 2007.
- f. Mushroom/Fungi related questions taken from the public (in Idaho). A few examples since 2007.
 - i. By phone: Sept. 20, 2010. Mushroom ID (a stinkhorn).
 - ii. Returned call to Meridian, ID vet, gave advice on possible fungal poisoning of a dog. June 29, 2009.
 - iii. By Phone: Advised a Kuna vet on the wet season and how it may be impacting mushroom occurrences in the area, especially with pets consuming them. June 19, 2008.
 - iv. Answered query by Caldwell, ID resident on strange aquatic organisms – id’s as Nostoc and symbiotic midge and sent him original paper from 1960’s. (by email) Sept. 17, 2008.
 - v. In person: Sat with concerned local Boise resident who brought in a variety of dried wild mushrooms found in son’s bedroom. (1.5 hours) Oct. 7, 2008.