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Assistant Professor

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Education

- **Ph.D.** (2002) Department of Biological Sciences, Louisiana State University. Dissertation: Molecular Phylogeny of *Melanospora* and Diaporthales, and Population Genetics of Dogwood Anthracnose Fungus.
- **M.S.** (1996) Systematic Mycology and Lichenology Laboratory, Institute of Microbiology, Chinese Academy of Sciences. Thesis: Rust Fungi of the Daba Mountains.
- **B.S.** (1993) Shandong University (P. R. China). Major: Microbiology. Thesis: Tryptophan Fermentation Using *Corynebacterium glutanicum* Trp 10 and its Genetics.

Work Experience

- **Assistant Professor**, January 2009-present, Department of Plant Biology & Pathology and Department of Biochemistry & Microbiology, **Rutgers University**. 1. Population and evolutionary biology of fungal pathogens of turf and other grass hosts. 2. Development of molecular techniques for the rapid diagnosis of known and emerging grass pathogens.
- **Research Associate**, July 2004-December 2008, Department of Plant Pathology, **Cornell University**, Research projects: 1. Whole genome functional analysis of non-ribosomal peptide synthetases in phytopathogenic fungi, using corn and wheat pathogens as model systems; 2. Development of macroarray technology for the rapid diagnosis of known and emerging solanaceous plant pathogens. 3. Mechanism of DMI fungicide resistance of the brown rot pathogen *Monilinia fructicola*.
- **Postdoctoral Research Associate**, April 2002-June 2004, *Fusarium* Research Center, Department of Plant Pathology, **The Pennsylvania State University**. Research project: Molecular phylogeny and population genetics of the *Fusarium solani* species complex.

- **Graduate Teaching Assistant**, 1996-2001, Department of Biological Sciences, **Louisiana State University**. Classes instructed or assisted in instructing: Mycology, Introductory Biology Laboratory, and Plant Biology.

Technical Experience

- Molecular biological techniques including DNA and RNA extraction and purification, PCR, real-time PCR, gene cloning, bacterial and fungal transformation, DNA sequencing, AFLP, RFLP, and RAPD.
- Computer analysis for molecular phylogeny, population genetics, and whole genome annotation: PAUP*, Arlequin, MEGA, Clustal X, MacClade, PHYLIP, and Artemis.
- Detection and identification of fungi by molecular methods, including DNA array and real-time PCR assays.
- Electron Microscopy (SEM and TEM).

Professional Societies

- Mycological Society of America (1998-present)
- American Phytopathological Society (2001-present)

Publications

Journal Publications

- O'Donnell, K., Sutton, D. A., Fothergill, A., McCarthy, D., Brandt, M., Zhang, N. and Geiser, D. M. 2008. Molecular phylogenetic diversity, multilocus haplotype nomenclature, and in vitro antifungal resistance within the *Fusarium solani* species complex. *Journal of Clinical Microbiology* 46:2477-2490.
- Bidartondo M. I. (256 authors) 2008. Preserving accuracy in GenBank. *Science* 319:1616.
- Zhang, N., McCarthy, M. L., and Smart, C. D. 2008. A macroarray system for the detection of multiple fungal and oomycete pathogens of solanaceous crops from field samples. *Plant Disease* 92:953-960.
- Gilbert, C. A., Zhang, N., Hutmacher, R. B., Davis, R. M., and Smart, C. D. 2008. Development of a DNA-based macroarray for the detection and identification of *Fusarium oxysporum* f. sp. *vasinfectum* in cotton tissue. *Journal of Cotton Science* 12(2):165-170.

- Pokharel, R. R., Abawi, G. S., Zhang, N., Duxbury, J. M., and Smart, C. D. 2007. Characterization of isolates of *Meloidogyne* from rice-wheat production fields in Nepal. *Journal of Nematology* 39(3):221-230.
- Zhang, N., Geiser, D. M., and Smart, C. D. 2007. Macroarray detection of solanaceous plant pathogens in the *Fusarium solani* species complex. *Plant Disease* 91:1612-1620.
- Hibbett, D. S., Binder, M., Bischoff, J. F., Blackwell, M., Cannon, P. F., Eriksson, O., Huhndorf, S., James, T., Kirk, P. M., Lücking, R., Lumbsch, T., Lutzoni, F., Matheny, P. B., McLaughlin, D. J., Powell, M. J., Redhead, S., Schoch, C. L., Spatafora, J. W., Stalpers, J. A., Vilgalys, R., Aime, C., Aptroot, A., Bauer, R., Begerow, D., Benny, G. L., Castlebury, L. A., Crous, P. W., Dai, Y.-C., Gams, W., Griffith, G. W., Hawksworth, D., Hofstetter, V., Hosaka, K., Humber, R. A., Hyde, K., Křivánek, U., Kurtzman, C. P., Larsson, K.-H., Lichtwardt, R., Longcore, J., Miller, A., Moncalvo, J.-M., Mozley-Standridge, S., Oberwinkler, F., Parmasto, E., Rogers, J. D., Ryvarden, L., Sampaio, J. P., Schuessler, A., Sugiyama, J., Taylor, J. W., Thorn, R. G., Tibell, L., Untereiner, W. A., Walker, C., Wang, Z., Weir, A., Weiss, M., White, M., Winka, K., Yao, Y.-J., and Zhang, N. 2007. A higher-level phylogenetic classification of the fungi. *Mycological Research* 111:509-547.
- Zhang, N., Castlebury, L. A., Miller, A. N., Huhndorf, S. M., Schoch, C., Seifert, K. A., Rossman, A. Y., Rogers, J. D., Kohlmeyer, J., Volkmann-Kohlmeyer, B., and Sung, G.-H. 2006. An overview of the systematics of the Sordariomycetes based on a four-gene phylogeny. *Mycologia* 98: 1077-1088. (*Invited lead author*)
- Zhang, N., O'Donnell, K., Sutton, D. A., Nalim, A., Samuels, G. J., Summerbell, R. C., Padhye, A. A., and Geiser, D. M. 2006. Members of the *Fusarium solani* species complex causing infections in both humans and plants are common in the environment. *Journal of Clinical Microbiology* 44:2186-2190.
- Tantarini, A., Calvi, M., Cavagna, B., Zhang, N., and Geiser, D. M. 2004. Primo rinvenimento in Italia di antracnosi causata da *Discula destructiva* su *Cornus florida* e *C. nuttallii*. *Informatore Fitopatologico* 12:44-47.
- Geiser, D. M., Jiménez-Gasco, M., Kang, S., Makalowska, I., Veeraraghavan, N., Ward, T. J., Zhang, N., Kuldau, G. A., and O'Donnell, K. 2004. FUSARIUM-ID v. 1.0: A DNA Sequence Database for Identifying *Fusarium*. *European Journal of Plant Pathology* 110: 473-479.
- Zhang, N., Suh, S.-O., and Blackwell, M. 2003. Microorganisms in the gut of beetles: evidence from molecular cloning. *Journal of Invertebrate Pathology* 84: 226-233.
- Zhang, N. and Blackwell, M. 2002. Population structure of dogwood anthracnose fungus. *Phytopathology* 92: 1276-1283.
- Zhang, N. and Blackwell, M. 2002. Molecular phylogeny of *Melanospora* Corda and similar pyrenomycetous fungi. *Mycological Research* 106: 148-155.

- Zhang, N. and Blackwell, M. 2001. Molecular phylogeny of dogwood anthracnose fungus (*Discula destructiva*) and the Diaporthales. *Mycologia* 93:356-364.
- Zhang, N., Zhuang, J.-Y., and Wei, S.-X. 1997. Rust fungi of the Daba Mountains. *Mycotaxon* 61: 49-79.

Online Peer-Reviewed Publications

- Zhang, N. 2007. Melanosporales. Version 20 November 2007 (under construction). <http://tolweb.org/Melanosporales/57149/2007.11.20> in *The Tree of Life Web Project*, <http://tolweb.org/>
- Zhang, N. and Sung, G-H. 2008. Sordariomycetes. Version 14 January 2008 (under construction) <http://tolweb.org/Sordariomycetes/29050/2008.01.14> in *The Tree of Life Web Project*, <http://tolweb.org/>

Book Chapter

- B. Gillian Turgeon, Bradford Condon, Jinyuan Liu, and Ning Zhang. Protoplast Transformation of Filamentous Fungi. In *Fungal Molecular and Cell Biology, Methods in Molecular Biology* series. Humana Press. J. Walker ed. Submitted.

Conference Presentations

- Zhang, N., McCarthy, M. L., and Smart, C. D. A macroarray system for the detection of multiple fungal and oomycete pathogens of solanaceous crops from field samples. Mycological Society of America August 2007. (*Invited Symposium Presentation*)
- Zhang, N. and Smart, C. D. Macroarray detection of known and emerging fungal and oomycete pathogens on solanaceous crops. 2006. *Phytopathology* 96:S129.
- Parker, D. M., Zhang, N., Smart, C. D., and Koeller, W. D. Polymorphism of 14 alpha-demethylase gene (*CYP51*) in brown rot pathogen *Monilinia fructicola* from a resistant orchard in New York State. 2006. *Phytopathology* 96:S90.
- Zhang, N., Castlebury, L. A., Miller, A. N., Huhndorf, S. M., Schoch, C., Seifert, K. A., Rossman, A. Y., Rogers, J. D., Kohlmeyer, J., Volkmann-Kohlmeyer, B., and Sung, G-H. An overview of the systematics of the Sordariomycetes based on a four-gene phylogeny. (Invited Presentation) Deep Hypha (A Phylogeny for Kingdom Fungi) meeting, Baton Rouge, LA, February 2006.
- Zhang, N., Geiser, D. M., and Smart, C. D. 2005. Molecular detection of *Fusarium solani* species complex using a macroarray. *Phytopathology* 95:S98.

- Zhang, N., Geiser, D. M., and Smart, C. D. Molecular detection of members of the *Fusarium solani* species complex using a macroarray. Mycological Society of America annual meeting, Hilo, HI, July-August 2005.
- Zhang, N., Nalim, A., Sutton, D.A., Epstein, L., O'Donnell, K., and Geiser, D. M. Association of Clinical, Environmental and Plant Pathogenic Isolates Within the *Fusarium solani* Species Complex. Mycological Society of America annual meeting, Asheville, NC, July 2004.
- Zhang, N., Geiser, D. M., and O'Donnell, K. An elongation factor database of the *Fusarium solani* species complex. Mycological Society of America annual meeting, Asilomar, CA, July 2003.
- Zhang, N. and Blackwell, M. 2001. Population Genetics of Dogwood Anthracnose Fungus (*Discula destructiva* Redlin). Mycological Society of America annual meeting, Salt Lake City, UT, August-September 2001.
- Zhang, N. and Blackwell, M. 2000. Molecular Phylogeny of dogwood anthracnose fungus and the Diaporthales. Mycological Society of America annual meeting, Burlington, VT, July-August 2000.
- Zhang, N. and Blackwell, M. 1999. Molecular phylogeny of *Melanospora* Corda and similar pyrenomycetous fungi. XVI International Botanical Congress, St. Louis, MO, August 1999.

Honors and Awards

Research

- C. W. Edgerton Honor Award, Louisiana State University, Department of Biological Sciences. 2002.
- E. S. Luttrell Travel Award, Mycological Society of America, "Population genetics of dogwood anthracnose fungus (*Discula destructiva* Redlin). August 2001.
- Uecker Travel Award, Mycological Society of America, "Molecular phylogeny of dogwood anthracnose fungus and the Diaporthales," June 2000.
- Graduate School Special Achievement Award, Louisiana State University Graduate Student Association, February 2000.
- McDaniel Scholarship, Louisiana State University, February 2000.
- Graduate Research Prize, Mycological Society of America, "Molecular phylogeny of *Melanospora* Corda and similar pyrenomycetous fungi". August 1999.

- Sigma Xi Grant-in-Aid of Research, Honorable Mention Award, “Population genetic studies of the dogwood anthracnose fungus (*Discula destructiva* Redlin)”. April 1999.

Teaching

- William J. Luke Award. Given annually to a teaching assistant in the plant biology program for outstanding instruction, Department of Biological Sciences, Louisiana State University, May 2001.
- Freshman Biology Award. Given annually to a teaching assistant in the biological sciences for outstanding instruction in freshman biology laboratories, Department of Biological Sciences, Louisiana State University, May 2001.