

Ning Zhang
Associate Professor

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Education

Ph.D. (2002) Department of Biological Sciences, Louisiana State University.

M.S. (1996) Systematic Mycology and Lichenology Laboratory, Institute of Microbiology, Chinese Academy of Sciences.

B.S. (1993) Shandong University (China). Major: Microbiology.

Academic Positions

Associate Professor, 2015-present, Department of Plant Biology and Department of Biochemistry & Microbiology, **Rutgers University**.

Assistant Professor, 2009-2015, Department of Plant Biology & Pathology and Department of Biochemistry & Microbiology, **Rutgers University**.

Research Associate, 2004-2008, Department of Plant Pathology, **Cornell University**,

Postdoctoral Research Associate, 2002-2004, *Fusarium* Research Center, Department of Plant Pathology, **The Pennsylvania State University**.

Professional Societies

Mycological Society of America (1998-present)

American Phytopathological Society (2001-present)

American Association for the Advancement of Science (2009-present)

American Society for Microbiology (2009-2011)

Theobald Smith Society (2013-present)

Honors and Awards

Research Awards

1. **Rutgers Patent Award, 2017.**
2. **Chancellor's Scholar**, Rutgers University, **2016.**
3. **The Board of Trustees Research Fellowship for Scholarly Excellence**, Rutgers University, **2015.**
4. **Young Investigator Award**, Theobald Smith Society, New Jersey Branch of the American Society for Microbiology. **2013.**
5. **Northeast Award for Excellence in Multistate Research**, Northeastern Regional Association (NERA) of State Agricultural Experiment Station Directors. Participant of the project NE1025 "Biology, Ecology and Management of Emerging Pests of Annual Bluegrass on Golf Courses". **2011.**

6. **“Best of the Best” Team Award**, Rutgers Cooperative Extension, participant of the project: “Integrated Program for Management of Emerging Pests of Annual Bluegrass on Golf Courses”. **2011**.
7. **Fungal Environmental Sampling and Informatics Network Travel Award** (an NSF funded research network project). **2010**.
8. **C. W. Edgerton Honor Award**, Louisiana State University. **2002**.
9. **E. S. Luttrell Travel Award**, Mycological Society of America. **2001**.
10. **Uecker Travel Award**, Mycological Society of America. **2000**.
11. **Graduate School Special Achievement Award**, Louisiana State University Graduate Student Association. **2000**.
12. **McDaniel Scholarship**, Louisiana State University. **2000**.
13. **Graduate Research Prize**, Mycological Society of America. **1999**.
14. **Sigma Xi Grant-in-Aid of Research**, Honorable Mention Award. **1999**.

Teaching Awards

1. **William J. Luke Award**. Given annually to a teaching assistant in the plant biology program for outstanding instruction, Louisiana State University. **2001**.
2. **Freshman Biology Award**. Given annually to a teaching assistant in the biological sciences for outstanding instruction in freshman biology laboratories, Louisiana State University. **2001**.

Awards Won by Mentored Students

1. Molly Bindell, Caroline Thorn Kissel Summer Environmental Studies Scholarship, Garden Club of America (2016): Awarded \$3,000
2. Molly Bindell, Military Spouse Scholarship, National Military Family Association (2016, 2017): Awarded \$2,000
3. Molly Bindell, Fall 2015 Professional Development Fund (2015): Awarded \$693
4. Molly Bindell, Summer 2015 Professional Development Fund (2015): Awarded \$2,000
5. Stephen Miller (lab PhD student), Clark T. Rogerson Student Research Award (\$1000), Mycological Society of America. 2013.
6. Stephen Miller, New Jersey Mycological Society Scholarship (\$1200). 2012.
7. Stephen Miller, National Science Foundation FESIN Travel Award (\$1000). 2011.
8. Stephen Miller, Graduate Travel Award Rutgers University (\$500). 2011

SCHOLARSHIP

PUBLICATIONS

* Corresponding author

† Lab graduate student/postdoc/visiting scholar

†† Undergraduate/high school/non-matriculated student

Peer-Reviewed Journal Papers (published/in press)

2017

1. Tripp E, **Zhang N**, Schneider H, Huang Y, Mueller GM, Hu Z, Häggblom M, Bhattacharya D. Reshaping Darwin's Tree: Impact of the Symbiome. ***Trends in Ecology and Evolution* 2017**. <http://dx.doi.org/10.1016/j.tree.2017.05.002>
2. Luo J†, Walsh E††, Miller S†, Blystone D††, Dighton J, **Zhang N***. 2017. Root endophytic fungal communities associated with pitch pine, switchgrass, and rosette grass in the pine barrens ecosystem. ***Fungal Biology* 121:478-487**. DOI: 10.1016/j.funbio.2017.01.005
3. K. Mantooth, D. Hadziabdic, S. Boggess, M. Windham, S. Millert†, G. Cai, J. Spatafora, **N. Zhang**, M. Staton, B. Ownley, R. Trigiano. 2017. Confirmation of independent introductions of an exotic plant pathogen of *Cornus* species, *Discula destructiva*, on the east and west coasts of North America. ***PLoS ONE* 12(7): e0180345**. <https://doi.org/10.1371/journal.pone.0180345>
4. Guozhu Zhao†, Guohua Yin, Arati A. Inamdar, Jing Luo†, **Ning Zhang**, Ill Yang, Brian Buckley, Joan W. Bennett. 2017. Volatile organic compounds emitted by filamentous fungi isolated from flooded homes after Hurricane Sandy show toxicity in a *Drosophila* bioassay. ***Indoor Air* 27: 518-528**. DOI: 10.1111/ina.12350

2016

5. Qiu H†, Cai G, Luo J†, Bhattacharya D, **Zhang N***. 2016. Extensive horizontal gene transfers between plant pathogenic fungi. ***BMC Biology* 14:41**, pg 1-11. DOI: 10.1186/s12915-016-0264-3
6. **Zhang N***, Luo J, Rossman A, Aoki T, Chuma I, Crous PW, Dean R, de Vries RP, Donofrio N, Hyde KD, Lebrun M, Talbot NJ, Tharreau D, Tosa Y, Valent B, Wang Z, Xu J. 2016. Generic Names in Magnaporthales. ***IMA Fungus* 7(1): 155-159**. DOI: 10.5598/imafungus.2016.07.01.09
7. Miller SJ†, Masuya H, Zhang J, Walsh E††, **Zhang N***. 2016. Real-time PCR detection of dogwood anthracnose fungus in historical herbarium specimens from Asia. ***PLoS ONE* 11(4):e0154030**, pg 1-9. DOI:10.1371/journal.pone.0154030
8. Schroers HJ, Samuels GJ, **Zhang N**, Short D, Juba J, Geiser DM. 2016. Epitypification of *Fusisporium* (*Fusarium*) *solani* and its assignment to a common phylogenetic species in the *F. solani* species complex. ***Mycologia* 108: 806-819**. DOI:10.3852/15-255
9. Cheng L†, **Zhang N**, Huang B. 2016. Effects of ACC-deaminase Producing Bacteria on Perennial Ryegrass Growth and Physiological Responses to Salinity Stress. ***Journal of the American Society for Horticultural Science* 141:233-241**

2015

10. Walsh E††, Luo J†, Naik A††, Preteroti T††, **Zhang N***. 2015. *Barrenia*, a new genus associated with roots of switchgrass and pine in the oligotrophic pine barrens. ***Fungal Biology* 119: 1216-1225**. DOI: 10.1016/j.funbio.2015.09.010

11. Luo J†, Walsh E††, Blystone D††, **Zhang N***. 2015. Five new *Pseudophialophora* species from grass roots in the oligotrophic pine barrens ecosystem. **Fungal Biology** 119: 1205-1215. DOI: 10.1016/j.funbio.2015.08.016
12. Luo J†, Qiu H, Cai G, Wagner NE, Bhattacharya D, **Zhang N***. 2015. Phylogenomic analysis uncovers the evolutionary history of nutrition and infection mode in rice blast fungus and other Magnaporthales. **Scientific Reports** 5:9448. DOI: 10.1038/srep09448
13. Luo J†, Walsh E††, **Zhang N***. 2015. Toward monophyletic generic concepts in Magnaporthales: species with *Harpophora* asexual states. **Mycologia** 107: 641-646. DOI:10.3852/14-302
14. Zhou N, Chen Q, Carroll G, **Zhang N**, Shivas RG, Cai L. 2015. Polyphasic characterization of four new plant pathogenic *Phyllosticta* species from China, Japan, and the United States. **Fungal Biology** 119: 433-446. DOI: 10.1016/j.funbio.2014.08.006
15. Beck A, Divakar PK, **Zhang N**, Molina MC, Struwe L. 2015. Evidence of ancient horizontal gene transfer between fungi and the terrestrial alga *Trebouxia*. **Organisms Diversity and Evolution** 15: 235-248. DOI: 10.1007/s13127-014-0199-x
16. Li S, Darwish O, Alkharouf, N, Matthews, B, Ji P, Domier LL, **Zhang N**, Blum BH. 2015. Draft genome sequence of *Phomopsis longicolla* isolate MSPL 10-6. **Genomics Data** 3: 55-56. DOI: <http://dx.doi.org/10.1016/j.gdata.2014.11.007>

2014

17. Walsh E††, Luo J†, **Zhang N***. 2014. *Acidomelania panicicola* gen. et. sp. nov. from switchgrass roots in acidic New Jersey Pine Barrens. **Mycologia** 106:856-864. DOI: 10.3852/13-377
18. Luo J†, Walsh E††, Naik A††, Zhuang WY, Zhang K, Cai L, **Zhang N***. 2014. Temperate pine barrens and tropical rain forests are both rich in undescribed fungi. **PLoS ONE** 9(7): e103753. DOI: 10.1371/journal.pone.0103753
19. White JF Jr, Torres MS, Somu MP, Johnson H, Irizarry I, Chen Q, **Zhang N**, Walsh E††, Tadych M, Bergen M. 2014. Hydrogen peroxide staining to visualize intracellular bacterial infections of seedling root cells. **Microscopy Research and Technique** 77: 566-573. DOI: 10.1002/jemt.22375
20. Schoch CL, Robbertse B, Robert V, Vu D, Cardinali G, Irinyi L, Meyer W, Nilsson RH, Hughes K, Miller AN, Kirk PM, Abarenkov K, Aime MC, Ariyawansa HA, Bidartondo M, Boekhout T, Buyck B, Cai Q, Chen J, Crespo A, Crous PW, Damm U, De Beer ZW, Dentinger BTM, Divakar PK, Dueñas M, Feau N, Fliegerova K, García MA, Ge Z-W, Griffith GW, Groenewald JZ, Groenewald M, Grube M, Gryzenhout M, Gueidan C, Guo L, Hambleton S, Hamelin R, Hansen K, Hofstetter V, Hong S-B, Houbraken J, Hyde KD, Inderbitzin P, Johnston PR, Karunarathna SC, Kõljalg U, Kovács GM, Kraichak E, Krizsan K, Kurtzman CP, Larsson K-H, Leavitt S, Letcher PM, Liimatainen K, Liu J-K, Lodge DJ, Luangsa-ard JJ, Lumbsch HT, Maharachchikumbura SSN, Manamgoda D, Martín MP, Minnis A, Moncalvo J-M, Mulè G, Nakasone KK, Niskanen T, Olariaga I,

Papp T, Petkovits T, Pino-Bodas R, Powell MJ, Raja HA, Redecker D, Sarmiento-Ramirez JM, Seifert KA, Shrestha B, Stenroos S, Stielow B, Suh S-O, Tanaka K, Tedersoo L, Telleria MT, Udayanga D, Untereiner WA, Uribeondo JD, Subbarao KV, Vágvölgyi C, Visagie C, Voigt K, Walker DM, Weir BS, Weiß M, Zhuang W-Y, Wijayawardene NN, Wingfield MJ, Xu JP, Yang ZL, **Zhang N**, Federhen S. **2014**. Finding needles in haystacks: linking scientific names, reference specimens and molecular data for Fungi. *Database* 2014: 1-21. DOI: 10.1093/database/bau061

21. Luo J†, Walsh E††, **Zhang N***. **2014**. Four new species in Magnaporthaceae from grass roots in New Jersey Pine Barrens. *Mycologia* 106: 580-588. DOI: 10.3852/13-306

2013

22. Molina MC, Divakar PK, **Zhang N**, Gonzalez N, Struwe L. **2013**. Non-developing ascospores in apothecia of asexually reproducing lichen-forming fungi. *International Microbiology* 16: 145-155. DOI: 10.2436/20.1501.01.189
23. **Zhang N**, Mohdzainudin NAI, Scher K, Condon BJ, Horwitz BA, Turgeon BG. **2013**. Iron, oxidative stress, and virulence: roles of iron-sensitive transcription factor Sre1 and the redox sensor ChAp1 in the maize pathogen *Cochliobolus heterostrophus*. *Molecular Plant-Microbe Interactions* 26: 1473-1485. DOI: <http://dx.doi.org/10.1094/MPMI-02-13-0055-R>
24. Luo J†, **Zhang N***. **2013**. *Magnaporthiopsis*, a new genus in Magnaporthaceae (Ascomycota). *Mycologia* 105: 1019-1029. DOI: 10.3852/12-359
25. Zhang K, **Zhang N**, Cai L. **2013**. Typification and phylogenetic study of *Phyllosticta ampellicida* and *P. vaccinii*. *Mycologia* 105: 1030-1042. DOI: 10.3852/12-392
26. Dylan PGS, O'Donnell K, Thrane U, Nielsen KF, **Zhang N**, Juba J, Geiser DM. **2013**. Phylogenetic relationships among members of the *Fusarium solani* species complex in human infections and the descriptions of *F. keratoplasticum* sp. nov. and *F. petroliphilum* stat. nov. *Fungal Genetics and Biology* 53: 59-70. DOI: <http://dx.doi.org/10.1016/j.fgb.2013.01.004>
27. Molnar T, Walsh E††, Capik J, Sathuvalli V, Mehlenbacher S, Rossman A, **Zhang N***. **2013**. A real-time PCR assay for early detection of eastern filbert blight. *Plant Disease* 97: 813-818. DOI: <http://dx.doi.org/10.1094/PDIS-11-12-1041-RE>
28. Geiser DM, Aoki T, Bacon CW, Baker SE, Bhattacharyya MK, Brandt ME, Brown DW, Burgess LW, Chulze S, Coleman JJ, Correll JC, Covert SF, Crous PW, Cuomo CA, De Hoog GS, Di Pietro A, Elmer WH, Epstein L, Frandsen RJN, Freeman S, Gagkaeva T, Glenn AE, Gordon TR, Gregory NF, Hammond-Kosack KE, Hanson LE, Jimenez-Gasco MD, Kang S, Kistler HC, Kuldau GA, Leslie JF, Logrieco A, Lu GZ, Lysoe E, Ma LJ, McCormick SP, Migheli Q, Moretti A, Munaut F, O'Donnell K, Pfenning L, Ploetz RC, Proctor RH, Rehner SA, Robert VARG, Rooney AP, bin Salleh B, Scandiani MM, Scauflaire J, Short DPG, Steenkamp E, Suga H, Summerell BA, Sutton DA, Thrane U, Trail F, Van Diepeningen A, VanEtten HD, Viljoen A, Waalwijk C, Ward TJ, Wingfield MJ, Xu JR, Yang XB, Yli-Mattila T, **Zhang N**. **2013**. One Fungus, One Name: Defining

the genus *Fusarium* in a scientifically robust way that preserves longstanding use. ***Phytopathology*** 103: 400-408. DOI: <http://dx.doi.org/10.1094/PHYTO-07-12-0150-LE>

2012

29. Schoch CL, Seifert KA, Huhndorf S, Robert V, Spouge JL, Levesque CA, Chen W, Bolchacova E, Voigt K, Crous PW, Miller AN, Wingfield MJ, Aime MC, An KD, Bai FY, Barreto RW, Begerow D, Bergeron MJ, Blackwell M, Boekhout T, Bogale M, Boonyuen N, Burgaz AR, Buyck B, Cai L, Cai Q, Cardinali G, Chaverri P, Coppins BJ, Crespo A, Cubas P, Cummings C, Damm U, de Beer ZW, de Hoog GS, Del-Prado R, B D, Dieguez-Uribeondo J, Divakar PK, Douglas B, Duenas M, Duong TA, Eberhardt U, Edwards JE, Elshahed MS, Fliegerova K, Furtado M, Garcia MA, Ge ZW, Griffith GW, Griffiths K, Groenewald JZ, Groenewald M, Grube M, Gryzenhout M, Guo LD, Hagen F, Hambleton S, Hamelin RC, Hansen K, Harrold P, Heller G, Herrera G, Hirayama K, Hirooka Y, Ho HM, Hoffmann K, Hofstetter V, Hognabba F, Hollingsworth PM, Hong SB, Hosaka K, Houbraken J, Hughes K, Huhtinen S, Hyde KD, James T, Johnson EM, Johnson JE, Johnston PR, Jones EB, Kelly LJ, Kirk PM, Knapp DG, Koljalg U, GM K, Kurtzman CP, Landvik S, Leavitt SD, Ligenstoffer AS, Liimatainen K, Lombard L, Luangsa-Ard JJ, Lumbsch HT, Maganti H, Maharachchikumbura SS, Martin MP, May TW, McTaggart AR, Methven AS, Meyer W, Moncalvo JM, Mongkolsamrit S, Nagy LG, Nilsson RH, Niskanen T, Nyilasi I, Okada G, Okane I, Olariaga I, Otte J, Papp T, Park D, Petkovits T, Pino-Bodas R, Quaedvlieg W, Raja HA, Redecker D, T R, Ruibal C, Sarmiento-Ramirez JM, Schmitt I, Schussler A, Shearer C, Sotome K, Stefani FO, Stenroos S, Stielow B, Stockinger H, Suetrong S, Suh SO, Sung GH, Suzuki M, Tanaka K, Tedersoo L, Telleria MT, Tretter E, Untereiner WA, Urbina H, Vagvolgyi C, Vialle A, Vu TD, Walther G, Wang QM, Wang Y, Weir BS, Weiss M, White MM, Xu J, Yahr R, Yang ZL, Yurkov A, Zamora JC, **Zhang N**, Zhuang WY, Schindel D. **2012**. Nuclear ribosomal internal transcribed spacer (ITS) region as a universal DNA barcode marker for Fungi. ***Proceedings of the National Academy of Sciences of the United States of America*** 109: 6241-6246. DOI: 10.1073/pnas.1117018109. (Author contributions: NZ as a member of the Fungal Barcoding Consortium, performed research, collaborated in data generation and edited the manuscript).
30. Zhao S†, Clarke BB, Shen Q, Zhang L, **Zhang N***. **2012**. Development and application of a TaqMan real-time PCR assay for rapid detection of *Magnaporthe poae*. ***Mycologia*** 104:1250-1259. DOI:10.3852/11-365 (Zhao: co-advised PhD student, major professor Shen Q,)
31. Wu D, Oide S, **Zhang N**, Choi MY, Turgeon BG. **2012**. ChLae1 and ChVel1 regulate T-toxin production, virulence, oxidative stress response, and development of the maize pathogen *Cochliobolus heterostrophus*. ***PLoS Pathogens*** 8(2): e1002542. DOI: 10.1371/journal.ppat.1002542

2011

32. Short PGD, O'Donnell K, **Zhang N**, Juba JH, Geiser DM. **2011**. Widespread occurrence of diverse human pathogenic types of the fungus *Fusarium* detected in plumbing drains. ***Journal of Clinical Microbiology*** 49: 4264-4272. DOI: 10.1128/JCM.05468-11

33. Cai L, Giraud T, **Zhang N**, Begerow D, Cai G, Shivas RG. **2011**. The application of species criteria in plant pathogenic fungi. *Fungal Diversity* 50:121-133. DOI: 10.1007/s13225-011-0127-8
34. Rajmohan N†, Gianfagna TJ, Meca G, Moretti A, **Zhang N***. **2011**. Molecular identification and mycotoxin production of *Lilium longiflorum*-associated fusaria isolated from two geographic locations in the United States. *European Journal of Plant Pathology*. 131:631-642. DOI: 10.1007/s10658-011-9838-7 (Rajmohan: co-advised PhD student, major professor T. Gianfagna)
35. **Zhang N***, Zhao S†, Shen Q. **2011**. A six-gene phylogeny reveals the evolution of mode of infection in the rice blast fungus and allied species. *Mycologia* 103(6): 1267-1276. DOI:10.3852/11-022
36. **Zhang N***, Tantardini A, Miller SJ†, Eng A††, Salvatore N††. **2011**. TaqMan real-time PCR method for detection of *Discula destructiva* that causes dogwood anthracnose in Europe and North America. *European Journal of Plant Pathology* 130:551–558. DOI: 10.1007/s10658-011-9777-3
37. Hawksworth DL, Crous PW, Redhead SA, Reynolds DR, Samson RA, Seifert KA, Taylor JW, Wingfield MJ, Abaci O, Aime C, Asan A, Bai F-Y, de Beer ZW, Begerow D, Berikten D, Boekhout T, Buchanan PK, Burgess T, Buzina W, Cai L, Cannon PF, Crane JL, Damm U, Daniel H-M, van Diepeningen AD, Druzhinina I, Dyer PS, Eberhardt U, Fell JW, Frisvad JC, Geiser DM, Geml J, Glienke C, Grafenhan T, Groenewald JZ, Groenewald M, de Gruyter J, Gueho-Kellermann E, Guo L-D, Hibbett DS, Hong S-B, de Hoog GS, Houbraken J, Huhndorf SM, Hyde KD, Ismail A, Johnston PR, Kadaifciler DG, Kirk PM, Koljalg U, Kurtzman CP, Lagneau P-E, Levesque CA, Liu X, Lombard L, Meyer W, Miller A, Minter DW, Najafzadeh MJ, Norvell L, Ozerskaya SM, Ozic R, Pennycook SR, Peterson SW, Pettersson OV, Quaedvlieg W, Robert VA, Ruibal C, Schnurer J, Schroers H-J, Shivas R, Slippers B, Spierenburg H, Takashima M, Taskin E, Thines M, Thrane U, Uztan AH, van Raak M, Varga J, Vasco A, Verkley G, Videira SIR, de Vries RP, Weir BS, Yilmaz N, Yurkov A, **Zhang N**. **2011**. The Amsterdam Declaration on Fungal Nomenclature. *IMA Fungus* 2:105-112. DOI: 10.5598/imafungus.2011.02.01.14
38. Njambere EN†, Clarke BB, **Zhang N.*** **2011**. Dimeric oligonucleotide probes enhance diagnostic microarray performance. *Journal of Microbiological Methods* 86: 52-61. DOI: 10.1016/j.mimet.2011.03.015
39. Njambere EN†, Clarke BB, Bonos SA, Murphy JA, Buckley R, Tirpak S, **Zhang N***. **2011**. First Report of Brown Ring Patch Caused by *Waitea circinata* var. *circinata* on *Poa annua* and *Agrostis stolonifera* in New Jersey. *Plant Disease* 95: 78-79. DOI: 10.1094/PDIS-08-10-0606

2010

40. O'Donnell K, Sutton DA, Rinaldi MG, Sarver BAJ, Balajee SA, Schroers HJ, Summerbell RC, Robert VARG, Crous PW, **Zhang N**, Aoki T, Jung K, Park J, Lee YH, Kang S, Park B, Geiser DM. **2010**. An internet-accessible DNA sequence database for identifying

fusaria from human and animal infections. *Journal of Clinical Microbiology* 48: 3708-3718. DOI: 10.1128/JCM.00989-10

41. Molnar T, Capik J, Zhao S†, **Zhang N. 2010.** First report of Eastern Filbert Blight on *Corylus avellana* 'Gasaway' and 'VR20-11' caused by *Anisogramma anomala* (Peck) E. Müller in New Jersey. *Plant Disease* 94: 1265. DOI: 10.1094/PDIS-06-10-0445

42. O'Donnell K, Sutton DA, Fothergill A, McCarthy D, Rinaldi MG, Brandt ME, **Zhang N, Geiser DM. 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.

43. Bidartondo MI, Bruns TD, Blackwell M, Edwards I, Taylor AFS, Horton T, **Zhang N, Koljalg U, May G, Kuyper TW, Bever JD, Gilbert G, Taylor JW, DeSantis TZ, Pringle A, Borneman J, Thorn G, Berbee M, Mueller GM, Andersen GL, Vellinga EC, Branco S, Anderson I, Dickie IA, Avis P, Timonen S, Kjoller R, Lodge DJ, Bateman RM, Purvis A, Crous PW, Hawkes C, Barraclough T, Burt A, Nilsson RH, Larsson KH, Alexander I, Moncalvo JM, Berube J, Spatafora J, Lumbsch HT, Blair JE, Suh SO, Pfister DH, Binder M, Boehm EW, Kohn L, Mata JL, Dyer P, Sung GH, Dentinger B, Simmons EG, Baird RE, Volk TJ, Perry BA, Kerrigan RW, Campbell J, Rajesh J, Reynolds DR, Geiser D, Humber RA, Hausmann N, Szaro T, Stajich J, Gathman A, Peay KG, Henkel T, Robinson CH, Pukkila PJ, Nguyen NH, Villalta C, Kennedy P, Bergemann S, Aime MC, Kauff F, Porras-Alfaro A, Gueidan C, Beck A, Andersen B, Marek S, Crouch JA, Kerrigan J, Ristaino JB, Hodge KT, Kuldau G, Samuels GJ, Raja HA, Voglmayr H, Gardes M, Janos DP, Rogers JD, Cannon P, Woolfolk SW, Kistler HC, Castellano MA, Maldonado-Ramirez SL, Kirk PM, Farrar JJ, Osmundson T, Currah RS, Vujanovic V, Chen WD, Korf RP, Atallah ZK, Harrison KJ, Guarro J, Bates ST, Bonello P, Bridge P, Schell W, Rossi W, Stenlid J, Frisvad JC, Miller RM, Baker SE, Hallen HE, Janso JE, Wilson AW, Conway KE, Egerton-Warburton L, Wang Z, Eastburn D, Ho WWH, Kroken S, Stadler M, Turgeon G, Lichtwardt RW, Stewart EL, Wedin M, Li DW, Uchida JY, Jumpponen A, Deckert RJ, Beker HJ, Rogers SO, Xu JAP, Johnston P, Shoemaker RA, Liu MA, Marques G, Summerell B, Sokolski S, Thrane U, Widden P, Bruhn JN, Bianchinotti V, Tuthill D, Baroni TJ, Barron G, Hosaka K, Jewell K, Piepenbring M, Sullivan R, Griffith GW, Bradley SG, Aoki T, Yoder WT, Ju YM, Berch SM, Trappe M, Duan WJ, Bonito G, Taber RA, Coelho G, Bills G, Ganley A, Agerer R, Nagy L, Roy BA, Laessle T, Hallenberg N, Tichy HV, Stalpers J, Langer E, Scholler M, Krueger D, Pacioni G, Poder R, Pennanen T, Capelari M, Nakasone K, Tewari JP, Miller AN, Decock C, Huhndorf S, Wach M, Vishniac HS, Yohalem DS, Smith ME, Glenn AE, Spiering M, Lindner DL, Schoch C, Redhead SA, Ivors K, Jeffers SN, Geml J, Okafor F, Spiegel FW, Dewsbury D, Carroll J, Porter TM, Pashley C, Carpenter SE, Abad G, Voigt K, Arenz B, Methven AS, Schechter S, Vance P, Mahoney D, Kang SC, Rheeder JP, Mehl J, Greif M, Ngala GN, Ammirati J, Kawasaki M, Gwo-Fang YA, Matsumoto T, Smith D, Koenig G, Luoma D, May T, Leonardi M, Sigler L, Taylor DL, Gibson C, Sharpton T, Hawksworth DL, Dianese JC, Trudell SA, Paulus B, Padamsee M, Callac P, Lima N, White M, Barreau C, Juncal MA, Buyck B, Rabeler RK, Liles MR, Estes D, Carter R, Herr JM, Chandler G, Kerekes J, Cruse-Sanders J, Marquez RG, Horak E, Fitzsimons M, Doring H, Yao S, Hynson N, Ryberg M, Arnold AE, Hughes K. 2008.** Preserving accuracy in GenBank. *Science* 319:1616.

44. **Zhang N**, McCarthy ML, Smart CD. **2008**. A macroarray system for the detection of multiple fungal and oomycete pathogens of solanaceous crops from field samples. ***Plant Disease*** 92:953-960.
45. Gilbert CA, **Zhang N**, Hutmacher RB, Davis RM, Smart CD. **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*** 12:165-170.
46. Pokharel RR, Abawi GS, **Zhang N**, Duxbury JM, Smart CD. **2007**. Characterization of isolates of *Meloidogyne* from rice-wheat production fields in Nepal. ***Journal of Nematology*** 39:221-230.
47. **Zhang N**, Geiser DM, Smart CD. **2007**. Macroarray detection of solanaceous plant pathogens in the *Fusarium solani* species complex. ***Plant Disease*** 91:1612-1620.
48. Hibbett DS, Binder M, Bischoff JF, Blackwell M, Cannon PF, Eriksson OE, Huhndorf S, James T, Kirk PM, Lucking R, Lumbsch HT, 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 YC, Gams W, Geiser DM, Griffith GW, Gueidan C, Hawksworth DL, Hestmark G, Hosaka K, Humber RA, Hyde KD, Ironside JE, Koljalg U, Kurtzman CP, Larsson KH, Lichtwardt R, Longcore J, Miadlikowska J, Miller A, Moncalvo JM, Mozley-Standridge S, Oberwinkler F, Parmasto E, Reeb V, Rogers JD, Roux C, Ryvarden L, Sampaio JP, Schussler A, Sugiyama J, Thorn RG, Tibell L, Untereiner WA, Walker C, Wang Z, Weir A, Weiss M, White MM, Winka K, Yao YJ, **Zhang N**. **2007**. A higher-level phylogenetic classification of the fungi. ***Mycological Research*** 111:509-547.
49. **Zhang N**, Castlebury LA, Miller AN, Huhndorf SM, Schoch CL, Seifert KA, Rossman AY, Rogers JD, Kohlmeyer J, Volkmann-Kohlmeyer B, Sung GH. **2006**. An overview of the systematics of the Sordariomycetes based on a four-gene phylogeny. ***Mycologia*** 98:1077-1088. (Invited lead author)
50. **Zhang N**, O'Donnell K, Sutton DA, Nalim FA, Summerbell RC, Padhye AA, Geiser DM. **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.
51. Tantardini A, Calvi M, Cavagna B, **Zhang N**, Geiser DM. **2004**. Primo rinvenimento in Italia di antracnosi causata da *Discula destructiva* su *Cornus florida* e *C. nuttallii*. ***Informatore Fitopatologico*** 12:44-47.
52. Geiser DM, Jimenez-Gasco MD, Kang SC, Makalowska I, Veeraraghavan N, Ward TJ, **Zhang N**, Kuldau GA, O'Donnell K. **2004**. FUSARIUM-ID v. 1.0: A DNA Sequence Database for Identifying *Fusarium*. ***European Journal of Plant Pathology*** 110:473-479.
53. **Zhang N**, Suh S-O, Blackwell M. **2003**. Microorganisms in the gut of beetles: evidence from molecular cloning. ***Journal of Invertebrate Pathology*** 84:226-233.

54. **Zhang N**, Blackwell M. **2002**. Population structure of dogwood anthracnose fungus. *Phytopathology* 92: 1276-1283.
55. **Zhang N**, Blackwell M. **2002**. Molecular phylogeny of *Melanospora* Corda and similar pyrenomycetous fungi. *Mycological Research* 106:148-155.
56. **Zhang N**, Blackwell M. **2001**. Molecular phylogeny of dogwood anthracnose fungus (*Discula destructiva*) and the Diaporthales. *Mycologia* 93:356-364.
57. **Zhang N**, Zhuang J-Y, Wei S-X. **1997**. Rust fungi of the Daba Mountains. *Mycotaxon* 61:49-79.

Online Peer-Reviewed Publications

1. **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/>
2. **Zhang N***, 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/>

Other Journal Publications

1. **Zhang N**. **2016**. Magnaporthales genome symposium and workshop at Rutgers. *Inoculum* 67: 6-7.
2. **Zhang N***, Rossman AY, Seifert K, Bennett JW, Cai G, Cai L, Hillman B, Hyde KD, Luo J†, Manamgoda D, Meyer WA, Molnar T, Schoch C, Tadych M, White JF Jr. **2013**. Impacts of the International Code of Nomenclature for algae, fungi and plants (Melbourne Code) on the scientific names of plant pathogenic fungi. Online. *APSnet Feature*. American Phytopathological Society, St. Paul, MN.
3. **Zhang N**. **2009**. Leaf-inhabiting genera of the Gnomoniaceae, Diaporthales, a book review. *Inoculum* 60:61.

Book Chapters

1. **Zhang N**, Baird RE, Trigiano RN. **2016**. Plant Pathogenic Species of the Ascomycota: Pezizomycotina. Pp. 205-220. In *Plant Pathology: Concepts and Laboratory Exercises*. 3rd edition. Eds. Ownley BH, Trigiano RN. CRC Press.
2. **Zhang N**, Wang Z. **2015**. Sordariomycetes and Leotiomycetes. Systematics and Evolution. Pp. 57-88. In *The Mycota* VII 2nd edition, Eds. McLaughlin DJ, Spatafora JW. Springer-Verlag. Berlin Heidelberg.
3. Turgeon BG, Condon B, Liu J, **Zhang N**. **2010**. Protoplast Transformation of Filamentous Fungi. Pp. 3-20. In *Molecular and Cell Biology Methods for Fungi*, Methods in Molecular Biology series. Ed. Amir Sharon. Humana Press.

GRANTS

Extramural Grants

1. 2017-2021. USDA-NIFA Specialty Crop Research Initiative. "Increasing low-input turfgrass adoption through breeding, innovation, and public education"
Co-PI. \$5,487,600 total
2. 2015-2020. **NSF CAREER** "An online global monograph of Magnaporthales - evolution, taxonomy, biogeography and biology of the rice blast fungus and allies"
PI. \$599,230
3. 2016-2017. **NSF** "A Workshop to Explore Enhancing Collaboration Between US and Chinese Researchers in Systematic Biology" (PI: P. Herendeen)
Co-PI. \$78,001
4. 2016-2021. **USDA** "Explorations into the Turfgrass Phytobiome: Establishing Standardized Research Methodology for Studying Microbial Communities and Developing Reliable Applications for Turfgrass Management" (Multistate Research Project, J. Roberts leads)
PI. \$5,000 per year
5. 2015-2018. **NSF** "Digitization TCN: Collaborative: The Microfungi Collections Consortium: A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems." (PI: A. Miller)
Co-PI. Rutgers \$58,226
6. 2012-2016. **NSF** "Systematics of Magnaporthaceae: Understanding Evolution of the Rice Blast Fungus and Allied Species Using Phylogenetic, Phylogenomic and Comparative Genome Analyses". (Co-PI: D. Bhattacharya)
PI \$544,963
7. 2013-2016. **NSF REU**. "Revealing microbial communities associated with grass root in New Jersey Pine Barrens using metagenomic analysis".
PI \$6,250
8. 2014. **Northeastern Regional Association** of State Agricultural Experiment Station. "Organic Lawn Care Practices for the Northeast" Planning Grant. (PI: J. Murphy, 14 Co-PIs **\$5,600**).
Co-PI
9. 2011-2014. **US Golf Association** "Promotion of Turf Health Through Early Pathogen Detection-Development of a Turf PathoCHIP". (Co-PIs: B. Clarke, FP. Wong, SB. Martin, P. Harmon) (*National competitive grant, funding rate 22.9%*)
PI \$60,000
10. 2010-2013. **New Jersey Turfgrass Foundation and New Jersey Turfgrass Association**, "Promotion of Turf Health Through Early Pathogen Detection-Development of a Turf PathoCHIP".
PI \$38,523

Internal Grants

11. 2017-2019. Fungal Biodiversity in the New Jersey Pine Barrens. Rutgers School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station
Alberts Competitive Research Awards in Biodiversity.
PI. \$25,000.
12. 2016-2021. **Chancellor's Scholar Research Initiative.**
PI. \$5,000 per year.
13. 2016-2019. **US Department of Agriculture, McIntire Stennis.** "Regulation of Pitch Pine Wood Decomposition in the NJ Pine Barrens" Co-PI (PI: John Dighton).
Co-PI \$105,000
14. 2013-2016. **US Department of Agriculture, McIntire Stennis.** "Coarse woody residue decomposition affected by southern pine beetle: fungal interactions causing increased fire hazard" Co-PI (PI: John Dighton, Total \$60,000).
Co-PI \$30,000 for Zhang
15. 2010-2015. **Center for Turfgrass Science**, Rutgers University. "Development of a TurfPathoChip and understanding the population biology of *Rhizoctonia* species"
PI \$180,000
16. 2010-2015. **USDA HATCH**, Development of a Turf PathoChip and Understanding the Population Biology of Plant Pathogenic Fungi.
PI
17. 2012. **NJAES** Competitive Intramural Research Awards Program "Exploring switchgrass-fungal symbiosis using high throughput RNA sequencing"
PI \$8,000
18. 2012. **RU FAIR** "Fungi and mercury transformations in terrestrial systems". (PI. John Dighton, Tamar Barkay)
Co-PI (no fund for Zhang)
19. 2012-2013. **Rutgers Faculty Research Grant.** Phylogenomics of Rice Blast Fungus and Allied Species.
PI \$48,000
20. 2009-2010. **USDA HATCH**, NE1025 "Biology, Ecology and Management of Emerging Pests of Annual Bluegrass on Golf Courses". (with multiple PIs)
Co-PI
21. 2009. **Rutgers SEBS Pre-tenure Faculty Career Award.** "Is Dogwood Anthracnose Exotic? New Approaches to Explore the Biogeography and Evolution of Plant-Associated Fungi"
PI \$12,783

22. 2009. **RU-FAIR Minigrant**, Rutgers Women In Science, "Seminars to Help Expand Research Networks of Rutgers Women Faculty in Biological Sciences".
PI \$2,000

TEACHING

Courses Taught

Introduction to Plant Biology 16:765:501, 3 credits, core course in the Plant Biology graduate curriculum. Fall **2009, 2010, 2011**

Molecular Genetics Lab 11:126:482, 4 credits, Biotechnology undergraduate core course. Spring **2010, 2011, 2012, 2013, 2014, 2015, 2016**

Advanced Mycology 16:765:533, 3 credits, Plant Biology graduate course (co-teach). Spring **2012, 2014, 2016**

Guest Lectures

Fall 2009, 2010, 2011, 2012: **Fungi in the Environment** 11:770:402 (one lecture each year)
Fall 2010: **Seminar in Microbial Biology** 16:682:520 (one lecture)
Spring 2011, 2013, 2015: **Plant Pathogenesis** 16: 765:538 (two lectures each year)
Fall 2012: **Microbial Ecology and Diversity** 16:682:572 (one lecture)
Fall 2012, 2013, 2015, 2016: **Microbial Life** 16:682:501 (one lecture each year)
Fall 2012: **Introduction to Plant Biology**, 16:765:501 (one lecture)
Fall 2012: **The Evolution of Eukaryotes**, 11:704:401 (one lecture)
Spring 2015, 2016, 2017: **Fungi and Human Health** 11:776:415:01 (one lecture each year)
Fall 2015, 2016, 2017: **Microbial Biology Seminar** 16:682:521 (one lecture each year)

SERVICE

Professional Service

1. **Associate Editor** of *Mycologia*, 2013-2018.
2. **Organizer** of the NSF supported international workshop on "Comparative genomic approaches to understanding the evolution of Magnaporthales" at Rutgers University in January 2016.
3. **Co-organizer** of the NSF supported "A Workshop to Explore Enhancing Collaboration Between US and Chinese Researchers in Systematic Biology" held in Guangzhou, China. Feb. 2016.
4. Local Arrangement **Committee member** of the 13th International Turfgrass Research Conference, 2017.

5. Elected as **committee member** of The **International Commission of Fungal Taxonomy**, 2011-present.
6. **Co-organizer of the symposium** “What can Next Generation Fungal Genome Sequencing do for you?” in Botany 2015 conference, Edmonton, Canada, 2015.
7. Elected as **Councilor of Mycological Society of America** (Systematics and Evolution), 2011-2013.
8. **Member** (2010-2014) and **chair** (2014) of the **Research Committee**, Mycological Society of America.
9. **Member** (2014-present) of the **Program Planning Committee**, International Turfgrass Research Conference.
10. **Member** of the **International *Rhizoctonia* Subject Matter Committee**. 2013.
11. **Chair** of the **ad hoc session**, “One name = one fungus” at the 27th Fungal Genetics Conference. 2013.
12. **Moderator** for the Ecology and Pathology session at the Botanical Society America/Mycological Society of America 2009 meeting (Snowbird, UT), July 25-August 1, 2009.
13. **Editorial Board** of *Mycology*, 2012-2014.
14. **Organizer** of a **symposium** “The fungal DNA Barcode and Beyond”, one of the seven symposia selected for the 2012 Mycological Society of America Meeting.
15. **Moderator** for the **Fungal Biology session** at the American Phytopathological Society Annual meeting. 2011. Honolulu. August 6-10.
16. **Chair** of the Ecology and Pathology session at the Mycological Society of America 2011 meeting (Fairbanks, Alaska) August 1-5, 2011.

Referee Service

Peer Review: Scientific Journals

Mycologia, *American Journal of Botany*, *Microbial Ecology*, *Plant Disease*, *European Journal of Plant Pathology*, *Soil Science Society of American Journal*, *Fungal Biology*, *Fungal Diversity*, *Fungal Ecology*, *Mycology*, *The Plant Pathology Journal*, *Mycological Progress*, *Phytotaxa*, *Plant Disease*, *Molecular Plant Pathology*, *IMA Fungus*, *Studies in Mycology* etc.

Peer Review: Funding Agencies

1. Served on **NSF grant review panel** (Division of Environmental Biology, Systematics and Biodiversity) in 2013, 2015.

2. Served on a **USDA AFRI grant review virtual panel** in October 2014.
3. Grant review: **NSF**, 2009-2013.
4. Grant review: **Chinese NSF**, 2012-2014.
5. Grant review: **Northeast Sun Grant Initiative, USDA**. 2011.
6. Rutgers University **NJAES** competitive awards program for sequencing projects.
7. **Peer review panelist** for the Office of Scientific Quality Review (OSQR) of the **United States Department of Agriculture**, Agricultural Research Service. 2011.

University Service

1. Pre-tenure **Mentoring Committee** member of Matt Elmore, Department of Plant Biology. 2016-present
2. **Search Committee** of the Henry Rutgers Professor in Microbiomes and Health. Department of Biochemistry and Microbiology. Rutgers, 2016
3. **Promotion Reading Committee** of Rong Di, Department of Plant Biology, 2016.
4. **Search Committee** of the Funk Endowed Chair Professor. Department of Plant Biology and Pathology, Rutgers, 2015
5. **Member** of the **Membership and Nominations Committee** of the Microbial Biology Graduate Program, Rutgers University, 2012-present.
6. **Member** of the 2012 **Rutgers Center for Turfgrass Science Symposium** Organization Committee.
7. **Chair** of the 2011 **Rutgers Center for Turfgrass Science Symposium** Organization Committee.
8. **Rutgers Scholastic Standing and Admissions committee**: 2010-2011.
9. **Editor** of 2010 **Rutgers Center for Turfgrass Science Symposium**.
10. **Organizer**/host for two seminars given by outside speakers supported by RU-FAIR Minigrant. Scheduled October 2, 2009 and December 4, 2009.
11. Presented in a **workshop** for Rutgers graduate students and postdocs "Finding the balance: Achieving stability between work and life". July 28, 2009. **Women In Science**.