

## CURRICULUM VITAE

### NAME

Kirk Broders

### ADDRESS

Bioagricultural Sciences and Pest Management  
College of Agricultural Sciences

### PHONE

(970) 491-0850

### EDUCATION

2008 Ph D, The Ohio State University

2004 BS, University of Nebraska-Lincoln

### ACADEMIC POSITIONS

2017-2018 - Assistant Professor (College of Agricultural Sciences)

2016-2017 - Assistant Professor (College of Agricultural Sciences)

2015-2016 (College of Agricultural Sciences)

### OTHER POSITIONS

August 2015 - Present Assistant Professor, BSPM, Colorado State University, Fort Collins, CO, United States.

2011 - 2015 Assistant Professor, University of New Hampshire, United States.

2009 - 2010 Post-doctoral Research Fellow, University of Guelph, United States.

### PUBLISHED WORKS

#### **Refereed Journal Articles**

Broders, K. D., Munck, I., Wyka, S., Iriarte, G., Beaudoin, E. (2015). Characterization of Fungal Pathogens Associated with White Pine Needle Damage (WPND) in Northeastern North America. *Forests*, 6(11), 4088-4104., Peer Reviewed/Refereed

Munck, I. A., Livingston, W., Lombard, K., Luther, T., Ostrofsky, W. D., Weimer, J., Wyka, S., Broders, K. D. (2015). Extent and Severity of Caliciopsis Canker in New England, USA: An Emerging Disease of Eastern White Pine (*Pinus strobus* L.). *Forests*, 6(11), 4360-4373., Peer Reviewed/Refereed

Boraks, A. W., Broders, K. D. (in press). Population genetics of butternut (*Juglans cinerea*) in the northeastern United States. *Conservation Genetics*., Peer Reviewed/Refereed

Laflamme, G., Broders, K. D., Côté, C., Munck, I., Iriarte, G., Innes, L. (2015). Priority of *Lophophacidium* over *Canavirgella*: taxonomic status of *Lophophacidium dooksii* and *Canavirgella banfieldii*, causal agents of a

white pine needle disease. *Mycologia*, 107(4), 745-753., Peer Reviewed/Refereed

Broders, K. D., Boraks, A., Barbison, L., Brown, J. R., Boland, G. (2015). Recent insights into the pandemic disease butternut canker caused by the invasive pathogen *Ophiognomonia clavignenti-juglandacearum*. *Forest Pathology*, 45(1), 1-8., Peer Reviewed/Refereed

Wyka, S. A., Broders, K. D. *Septorioides strobis* sp. nov., a new species associated with needle defoliation of eastern white pine (*Pinus strobus* L.) in the Northeastern United States. *Fungal Diversity*, Peer Reviewed/Refereed

### Non-Refereed Journal Articles

Schuelke, T. A., Wu, G., Westbrook, A., Woeste, K., Plachetzki, D. C., Broders, K. D., MacManes, M. D. (2017). Comparative Genomics of Pathogenic and Nonpathogenic Beetle-Vectored Fungi in the Genus *Geosmithia*. *Genome biology and evolution*, 9(12), 3312--3327., Not Peer Reviewed/Refereed

Lang, J., DuCharme, E. M., Ibarra Caballero, J. R., Luna, E. K., Hartman, T., Ortiz-Castro, M., Korus, K., Rascoe, J., Jackson-Ziems, T., Broders, K. D., others (2017). Detection and Characterization of *Xanthomonas vasicola* pv. *vasculorum* (Cobb 1894) comb. nov. Causing Bacterial Leaf Streak of Corn in the United States. *Phytopathology*, 107(11), 1312--1321., Not Peer Reviewed/Refereed

Wyka, S. A., McIntire, C., Smith, C. F., Munck, I., Rock, B., Asbjornsen, H., Broders, K. D. (2017). Effect of climatic variables on abundance and dispersal of *Lecanosticta acicola* spores and impact of defoliation on eastern white pine. *Phytopathology*(ja), Not Peer Reviewed/Refereed

Wyka, S. A., Smith, C. F., Munck, I. A., Rock, B. N., Ziniti, B. L., Broders, K. D. (2017). Emergence of white pine needle damage in the northeastern United States is associated with changes in pathogen pressure in response to climate change. *Global change biology*, 23(1), 394--405., Not Peer Reviewed/Refereed

Plazas, M. C., Wu, G., De Rossi, R., Brucher, Elsa, Guerra, Fernando Andr'es, Vilar'o, Maria, Guerra, G. D., Ortiz-Castro, M. C., Broders, K. D. (2017). First report of *Xanthomonas vasicola* pv. *vasculorum* causing bacteria leaf streak of maize (*Zea mays* L.) in Argentina. *Plant Disease*(ja), Not Peer Reviewed/Refereed

Wallhead, M., Zhu, H., Broders, K. D. (2017). Hyperspectral Evaluation of *Venturia inaequalis* Management Using the Disease Predictive Model RIMpro in the Northeastern US. *Agricultural Sciences*, 8(12), 1358., Not Peer Reviewed/Refereed

Lyon, B., Broders, K. D. (2017). Impact of climate change and race evolution on the epidemiology and ecology of stripe rust in central and eastern USA and Canada. *Canadian Journal of Plant Pathology*, 39(4), 385--392., Not Peer Reviewed/Refereed

Broders, K. D. (2017). Status of bacterial leaf streak of corn in the United States., Not Peer Reviewed/Refereed

Schuelke, T. A., Westbrook, A., Woeste, K., Plachetzki, D., Broders, K. D., MacManes, M. (2016). Comparative genomics of beetle-vectored fungal pathogens reveals a reduction in genome size and independent evolution of pathogenicity of two tree pathogens. *bioRxiv*, 093856., Not Peer Reviewed/Refereed

Schuelke, T. A., Westbrook, A., Broders, K. D., Woeste, K., MacManes, M. D. (2016). De novo genome assembly of *Geosmithia morbida*, the causal agent of thousand cankers disease. *PeerJ*, 4, e1952., Not Peer Reviewed/Refereed

Wyka, S. A., Smith, C. F., Munck, I. A., Rock, B. N., Ziniti, B. L., Broders, K. D. (2016). Emergence of white pine needle damage in the northeastern United States is associated with changes in pathogen pressure in

response to climate change. *Global change biology.*, Not Peer Reviewed/Refereed

- Acimovic, S., Harmon, C., Bec, S., Wyka, S. A., Broders, K. D., Docola, J. (2016). First Report of *Diplodia corticola* Causing Decline of Red Oak (*Quercus rubra*) Trees in Maine. *Plant Disease.*, Not Peer Reviewed/Refereed
- Boraks, A., Broders, K. (2016). Population genetic diversity of the rare hardwood butternut (*Juglans cinerea*) in the northeastern USA. *Tree Genetics & Genomes*, 12(3), 1–10., Not Peer Reviewed/Refereed
- Wyka, S. A., Broders, K. D. (2016). The new family Septorioideaceae, within the Botryosphaeriales and *Septorioides strobis* as a new species associated with needle defoliation of *Pinus strobus* in the United States. *Fungal Biology.*, Not Peer Reviewed/Refereed
- Hale, I. L., Wollheim, W. M., Smith, R. G., Asbjornsen, H., Brito, A. F., Broders, K. D., Grandy, A. S., Rowe, R. (2014). A Scale-Explicit Framework for Conceptualizing the Environmental Impacts of Agricultural Land Use Changes. *Sustainability*, 6(12), 8432-8451. <Go to ISI>://WOS:000346794700006, Not Peer Reviewed/Refereed
- Hale, I. L., Broders, K. D., Iriarte, G. (2014). A Vavilovian approach to discovering crop-associated microbes with potential to enhance plant immunity. *Frontiers in Plant Science*, 5. <Go to ISI>://WOS:000343859500001, Not Peer Reviewed/Refereed
- Boraks, A., Broders, K. D. (2014). Butternut (*Juglans cinerea*) health, hybridization, and recruitment in the northeastern United States. *Canadian Journal of Forest Research*, 44(10), 1244-1252. <Go to ISI>://WOS:000343114300011, Not Peer Reviewed/Refereed
- Lichtner, F. J., Broders, K. D. (2014). Characterization of foliar pathogens infecting perennial rye grass in the northeastern US. *Phytopathology*, 104(11), 69-69. <Go to ISI>://WOS:000346303300392, Not Peer Reviewed/Refereed
- Wallhead, M., Broders, K. D. (2014). Comparison of vegetation indices produced by two spectrometers: A hyperspectral assessment of *Malus domestica* leaves. *Phytopathology*, 104(11), 124-124. <Go to ISI>://WOS:000346303300708, Not Peer Reviewed/Refereed
- Gleeson, G., Wallhead, M., Broders, K. D. (2014). Distinguishing resistant from tolerant host-pathogen interactions between *Fragaria vesca* and *Verticillium dahliae*. *Phytopathology*, 104(11), 46-46. <Go to ISI>://WOS:000346303300261, Not Peer Reviewed/Refereed
- Wallhead, M., Broders, G. A., Beaudoin, E., Peralta, C., Broders, K. D. (2014). Phylogenetic assessment of *Colletotrichum* species associated with bitter rot and *Glomerella* leaf spot in the northeastern US. *Phytopathology*, 104(11), 123-124. <Go to ISI>://WOS:000346303300707, Not Peer Reviewed/Refereed
- Broders, K. D., Parker, M. L., Melzer, M. S., Boland, G. J. (2014). Phylogenetic Diversity of *Rhizoctonia solani* Associated with Canola and Wheat in Alberta, Manitoba, and Saskatchewan. *Plant Disease*, 98(12), 1695-1701. <Go to ISI>://WOS:000348827600015, Not Peer Reviewed/Refereed
- Broders, K., Parker, M., Melzer, M., Boland, G. (2014). Phylogenetic Diversity of *Rhizoctonia solani* Associated with Canola and Wheat in Alberta, Manitoba, and Saskatchewan. *Plant Disease*, 98(12), 1695-1701., Not Peer Reviewed/Refereed
- Zerillo, M. M., Caballero, J. I., Woeste, K., Graves, A. D., Hartel, C., Pscheidt, J. W., Tonos, J., Broders, K. D., Cranshaw, W. S., Seybold, S. J., Tisserat, N. A. (2014). Population Structure of *Geosmithia morbida*, the Causal Agent of Thousand Cankers Disease of Walnut Trees in the United States. *Plos One*, 9(11). <Go to

ISI>://WOS:000347709300113, Not Peer Reviewed/Refereed

- Zerillo, M. M., Caballero, J. R. Ibarra, Woeste, K. E., Graves, A. D., Hartel, C., Pscheidt, J. W., Tonos, J., Broders, K. D., Cranshaw, W. S., Seybold, S. J., Tisserat, N. A. (2014). Population structure of *Geosmithia morbida*, the causal agent of Thousand cankers disease of walnut trees in the United States. *Phytopathology*, *104*(11), 135-135. <Go to ISI>://WOS:000346303300770, Not Peer Reviewed/Refereed
- Broders, K. D., Laflamme, G., Cote, C., Munck, I., Broders, G. A., Innes, L. (2014). Taxonomical status of *Lophophacidium dooksii* and *Canavirgella banfieldii*, causal agent of a white pine needle disease. *Phytopathology*, *104*(3), 1-2. <Go to ISI>://WOS:000346302000004, Not Peer Reviewed/Refereed
- Lichter, F., Blasioli, K., Gleeson, G., Coats, K., Elliot, M., Hammett, C., Hamelin, R., Shamoun, S., Broders, K. D. (2013). Comparative genomic analysis of phenotypically and genotypically diverse isolates of *Phytophthora ramorum*. *Phytopathology*, *103*(6), 82-82. <Go to ISI>://WOS:000322799500452, Not Peer Reviewed/Refereed
- Parker, M., Melzer, M., Boland, G., Broders, K. D. (2013). Diversity of *Rhizoctonia solani* associated with canola, wheat, and pea in Alberta, Manitoba, and Saskatchewan. *Phytopathology*, *103*(6), 111-111. <Go to ISI>://WOS:000322799500609, Not Peer Reviewed/Refereed
- Peralta, C., Broders, K. D. (2012). Characterization of virulence and genotypic diversity of *Colletotrichum acutatum* isolates recovered from apple in New Hampshire. *Phytopathology*, *102*(7), 91-91. <Go to ISI>://WOS:000322797800478, Not Peer Reviewed/Refereed
- Boraks, A., Broders, K. D. (2012). Evaluation of the effect of butternut canker on the genetic diversity of regenerating butternut in New England. *Phytopathology*, *102*(7), 13-14. <Go to ISI>://WOS:000322797800071, Not Peer Reviewed/Refereed
- Broders, K. D., Boraks, A., Sanchez, A. M., Boland, G. J. (2012). Population structure of the butternut canker fungus, *Ophiognomonia clavignenti-juglandacearum*, in North American forests. *Ecology and Evolution*, *2*(9), 2114-2127. <Go to ISI>://WOS:000312449300003, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Ellis, M. L., Dorrance, A. E. (2012). *Pythium delawarii* a new species isolated from soybean in Ohio (vol 101, pg 232, 2009). *Mycologia*, *104*(3), 789-789. <Go to ISI>://WOS:000305497800018, Not Peer Reviewed/Refereed
- Ellis, M. L., Paul, P. A., Dorrance, A. E., Broders, K. D. (2012). Two new species of *Pythium*, *P. schmitthenneri* and *P. selbyi* pathogens of corn and soybean in Ohio. *Mycologia*, *104*(2), 477-487. <Go to ISI>://WOS:000301762100013, Not Peer Reviewed/Refereed
- Broders, K. D. (2012). Welcome to the micropolis: How metagenomics can enhance plant pathology research. *Phytopathology*, *102*(7), 160-160. <Go to ISI>://WOS:000322797800833, Not Peer Reviewed/Refereed
- Broders, K. D., Woeste, K. E., SanMiguel, P. J., Westerman, R. P., Boland, G. J. (2011). Discovery of single-nucleotide polymorphisms (SNPs) in the uncharacterized genome of the ascomycete *Ophiognomonia clavignenti-juglandacearum* from 454 sequence data. *Molecular Ecology Resources*, *11*(4), 693-702. <Go to ISI>://WOS:000292478500011, Not Peer Reviewed/Refereed
- Ellis, M. L., Broders, K. D., Paul, P. A., Dorrance, A. E. (2011). Infection of Soybean Seed by *Fusarium graminearum* and Effect of Seed Treatments on Disease Under Controlled Conditions. *Plant Disease*, *95*(4), 401-407. <Go to ISI>://WOS:000288728200004, Not Peer Reviewed/Refereed
- Broders, K. D., Barbison, L., Boland, G. (2011). Population structure of *Ophiognomonia*

- clavignenti-juglandacearum reveals multiple introductions of the butternut canker fungus into North America. *Phytopathology*, 101(6), S20-S20. <Go to ISI>://WOS:000295045400114, Not Peer Reviewed/Refereed
- Broders, K. D., Boland, G. J. (2011). Reclassification of the butternut canker fungus, *Sirococcus clavignenti-juglandacearum*, into the genus *Ophiognomonia*. *Fungal Biology*, 115(1), 70-79. <Go to ISI>://WOS:000286857000008, Not Peer Reviewed/Refereed
- Ellis, M. L., Broders, K. D., Paul, P. A., Dorrance, A. E. (2010). Description of two putative new species of *Pythium* isolated from soybean and corn in Ohio. *Phytopathology*, 100(6), S33-S33. <Go to ISI>://WOS:000295042000196, Not Peer Reviewed/Refereed
- Broders, K. D., SanMiguel, P. J., Westerman, R. P., Woeste, K. E., Boland, G. J. (2010). Discovering single nucleotide polymorphisms (SNPs) in an uncharacterized fungal genome using the software EagleView to evaluate 454 sequencing data. *Phytopathology*, 100(6), S17-S17. <Go to ISI>://WOS:000295042000099, Not Peer Reviewed/Refereed
- Broders, K. D., Boland, G. J. (2010). Molecular Diagnostic Assay for Detection of the Butternut Canker Pathogen *Sirococcus clavignenti-juglandacearum*. *Plant Disease*, 94(8), 952-958. <Go to ISI>://WOS:000280058900003, Not Peer Reviewed/Refereed
- Broders, K. D., Boland, G. J. (2010). Reclassification of the butternut canker fungus, *Sirococcus clavignenti-juglandacearum*, into the genus *Ophiognomonia*. *Phytopathology*, 100(6), S17-S17. <Go to ISI>://WOS:000295042000100, Not Peer Reviewed/Refereed
- Ellis, M. L., Dawes, S. M., Austin, G. D., Broders, K. D., Olaya, G., Bruns, D., Dorrance, A. E. (2009). Assessing the diversity of *Pythium* species and fungicide efficacy in agronomic production fields in Ohio. *Phytopathology*, 99(6), S32-S33. <Go to ISI>://WOS:000266213300191, Not Peer Reviewed/Refereed
- Broders, K. D., Wallhead, M. W., Austin, G. D., Lipps, P. E., Paul, P. A., Mullen, R. W., Dorrance, A. E. (2009). Association of Soil Chemical and Physical Properties with *Pythium* Species Diversity, Community Composition, and Disease Incidence. *Phytopathology*, 99(8), 957-967. <Go to ISI>://WOS:000267899100008, Not Peer Reviewed/Refereed
- Broders, K. D., Boland, G. J. (2009). Development of species-specific primers for the detection of the butternut canker pathogen *Sirococcus clavignenti-juglandacearum*. *Phytopathology*, 99(6), S16-S17. <Go to ISI>://WOS:000266213300094, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Ellis, M. L., Dorrance, A. E. (2009). *Pythium delawarii*-a new species isolated from soybean in Ohio. *Mycologia*, 101(2), 232-238. <Go to ISI>://WOS:000265275700009, Not Peer Reviewed/Refereed
- Broders, K. D., Wallhead, M., Paul, P. A., Lipps, P. E., Dorrance, A. E. (2008). Assessing *Pythium* population dynamics from different soil regions in Ohio. *Phytopathology*, 98(6), S26-S26. <Go to ISI>://WOS:000256125600124, Not Peer Reviewed/Refereed
- Ellis, M. L., Broders, K. D., Dorrance, A. E. (2008). Comparison of strobilurin type fungicides to control soybean seedling pathogens. *Phytopathology*, 98(6), S50-S51. <Go to ISI>://WOS:000256125600262, Not Peer Reviewed/Refereed
- Broders, K. D., Wallhead, M., Austin, G., Paul, P. A., Lipps, P. E., Dorrance, A. E. (2008). Effect of soil physical properties on incidence of corn and soybean damping-off caused by *Pythium* spp. *Phytopathology*, 98(6), S26-S26. <Go to ISI>://WOS:000256125600123, Not Peer Reviewed/Refereed

- Ellis, M. L., Broders, K. D., Paul, P. A., Dorrance, A. E. (2008). Efficacy of fungicides against *Fusarium graminearum* isolates associated with soybean seedling diseases in Ohio. *Phytopathology*, 98(6), S51-S51. <Go to ISI>://WOS:000256125600263, Not Peer Reviewed/Refereed
- Wallhead, M. W., Broders, K. D., Ellis, M. L., Dorrance, A. E. (2008). Evaluation of a soil baiting technique to test the efficacy of fungicidal seed treatments against soybean seedling pathogens. *Phytopathology*, 98(6), S165-S165. <Go to ISI>://WOS:000256125600903, Not Peer Reviewed/Refereed
- Broders, K. D., Dorrance, A. E. (2008). The description and phylogenetic placement of two putative new species of *Pythium*. *Phytopathology*, 98(6), S201-S202. <Go to ISI>://WOS:000256125601101, Not Peer Reviewed/Refereed
- Broders, K. D., Paul, P. A., Dorrance, A. E. (2007). Assessment of direct colony PCR and SSCP to determine the distribution of pathogenic *Pythium* spp. in Ohio. *Phytopathology*, 97(7), S14-S14. <Go to ISI>://WOS:000247470000081, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Paul, P. A., Dorrance, A. E. (2007). Characterization of *Pythium* spp. associated with corn and soybean seed and seedling disease in Ohio. *Plant Disease*, 91(6), 727-735. <Go to ISI>://WOS:000246590900011, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Dorrance, A. E. (2007). Evaluation of *F. graminearum* as a seed and seedling pathogen of corn and soybean in Ohio. *Phytopathology*, 97(7), S159-S159. <Go to ISI>://WOS:000247470001384, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Paul, P. A., Dorrance, A. E. (2007). Evaluation of *Fusarium graminearum* associated with corn and soybean seed and seedling disease in Ohio. *Plant Disease*, 91(9), 1155-1160. <Go to ISI>://WOS:000248999900015, Not Peer Reviewed/Refereed
- Broders, K. D., Lipps, P. E., Dorrance, A. E. (2007). Evaluation of *Pythium* spp. associated with corn and soybean seed and seedling disease in Ohio. *Phytopathology*, 97(7), S159-S159. <Go to ISI>://WOS:000247470001385, Not Peer Reviewed/Refereed
- Broders, K. D. (2007). The description and phylogenetic placement of two new species of *Pythium*., Not Peer Reviewed/Refereed
- Broders, K. D. (2006). Identification, pathogenicity, and fungicide sensitivity of *Pythium* species associated with corn and soybean seed and seedling disease in Ohio., Not Peer Reviewed/Refereed
- Broders, K. D., Partridge, J. E. (2004). A new corn and sorghum infecting *Cercospora* sp isolated from smooth brome grass. *Phytopathology*, 94(6), S10-S11. <Go to ISI>://WOS:000202993500068, Not Peer Reviewed/Refereed

### **Non-Refereed Proceedings or Transactions**

- Dorrance, A., Mills, D., Eisley, B., Mangione, D., Yost, J., McClure, G., Bender, R., Sundermeier, A., Sonnenberg, D., Hammond, R., Broders, K. D. (2008). *Foliar Fungicides and Fungicide Seed Treatments: Getting That Return on Investment* (pp. 11).: 2008 Illinois Crop Protection Technology Conference., Not Peer Reviewed/Refereed
- Broders, K., Lipps, P., Dorrance, A. Evaluation of *Pythium* spp. associated with corn and soybean seed and seedling disease in Ohio. *PHYTOPATHOLOGY* (vol. 97, pp. S159-S159).: AMER PHYTOPATHOLOGICAL SOC 3340 PILOT KNOB ROAD, ST PAUL, MN 55121 USA., Not Peer

Reviewed/Refereed

### **AES Report/Bulletin**

Johnson, J. J., Haley, S. D., Jones, S., Asfeld, E., Meyer, R. F., Trujillo, W., Kaan, D. A., Roesch, K., Larson, K., Vigil, M. F., Pettinger, B. T., Novak, R. A., Peairs, F. B., Broders, K. D., Byrne, P. F., Gaines, T., Westra, P., Walker, T., Erker, B. (2017). *TR17-4: Making Better Decisions, 2017 Colorado Winter Wheat Variety Performance Trials.*: Colorado Agricultural Experiment Station. PO Box 967, Not Peer Reviewed/Refereed

Johnson, J. J., Brick, M. A., Broders, K. D., Jones, S., Asfeld, E., Ogg, J. B. (2017). *TR17-5: Making Better Decisions, 2017 Colorado Dry Bean Variety Performance Trials.*: Colorado Agricultural Experiment Station., Not Peer Reviewed/Refereed

Johnson, J. J., Jones, S., Asfeld, E., Broders, K. D., Bartolo, M. E., Tanabe, K. J., Vigil, M. F. (2017). *TR17-7 Making Better Decisions: 2017 Colorado Corn Variety Performance Trials.*: Colorado Agricultural Experiment Station., Not Peer Reviewed/Refereed

### **Ph.D. Thesis**

Broders, K. D. (2008). *Seed and Seedling Disease of Corn and Soybean in Ohio: The Role of Fusarium graminearum, Pythium species diversity, fungicide sensitivity, Pythium community composition, and soil properties in disease severity.*: Not Peer Reviewed/Refereed

### **PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS**

February 3, 2016, "Creating a sustainable food future in the face of increasing environmental stress", College of Agricultural Sciences Research Seminar Series.

August 2015, "Characterization of fungi associated with needle defoliation of eastern white pine (*Pinus strobus*)", APS Annual Meeting, The American Phytopathological Society, (Presenter) Wyka, S.

October 2014, "Characterization and distribution of fungi associated with needle defoliation of eastern white pine (*Pinus strobus*)", XXIV IUFRO World Congress, The International Forestry Review.

### **TEACHING:**

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u>Cr. Hrs.</u>	<u>Enrollment</u>
2018	Spring	BC499A - Thesis-Laboratory Research-Based	3	11
2017	Fall	BSPM799 - Dissertation	13	3
2017	Fall	BSPM798 - Research	67	14
2017	Summer	BSPM794 - Independent Study	2	1
2017	Spring	BSPM361 - Elements of Plant Pathology	3	68
2017	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	23
2017	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	21
2017	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	24
2017	Spring	BSPM798 - Research	86	16
2016	Fall	BSPM794 - Independent Study	3	5
2016	Fall	BSPM698 - Research	18	11
2016	Fall	BSPM798 - Research	18	18
2016	Spring	BSPM361 - Elements of Plant Pathology	3	56
2016	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	22
2016	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	20
2016	Spring	BSPM361 - Elements of Plant Pathology - Lab	0	14

2016	Spring	BSPM794 - Independent Study	3	2
2016	Spring	BSPM450 - Molecular Plant-Microbe Interaction	3	4
2016	Spring	BSPM550 - Molecular Plant-Microbe Interactions	3	12
2016	Spring	BSPM798 - Research	18	14
2015	Fall	BSPM798 - Research	18	9

## **EXTENSION/ENGAGEMENT ACTIVITIES/ACCOMPLISHMENTS**

### **Field Day**

Managing mite-vectored viruses of wheat in Colorado. Colorado. Total number of participants: 250. Percent Responsible: 100%. 2nd Quarter 2017.

Status of bacterial leaf streak, stalk rot and nematode disease of corn. Adult, Holyoke, Colorado. Total number of participants: 25. Percent Responsible: 100%. 3rd Quarter 2017.

CSU Corn Variety Trial Field Day. Adult, Yuma, Colorado. Total number of participants: 15. Percent Responsible: 25%. 3rd Quarter 2016.

Potato Pathology Update. Center, Colorado. Total number of participants: 35. Percent Responsible: 25%. 3rd Quarter 2016.

### **Presentation**

Bacterial Leaf Streak, an Emerging Pathogen of Corn. Independent Agricultural Consultants of Colorado annual meeting. Adult, Denver, Colorado. Total number of participants: 130. Percent Responsible: 100%. 1st Quarter 2017.

Nematodes Impacting Corn & Xanthomonas vasicola: Historical perspective and current status. Adult, Wray, Colorado. Total number of participants: 175. Percent Responsible: 100%. 1st Quarter 2017.

Status of Bacterial Leaf Streak of Corn in the United States. Adult, Aimes, Iowa. Total number of participants: 200. Percent Responsible: 100%. 4th Quarter 2017.

Crop Pathology Update. Montrose, Colorado. Total number of participants: 200. Percent Responsible: 100%. 1st Quarter 2016.

The Extended Phenotype: The impact of domestication on the common bean microbiome. Adult, Fort Collins, Colorado. Number of times program was made: 1. Total number of participants: 65. Percent Responsible: 100%. 2nd Quarter 2016.

Colorado Crop Disease Update. Fort Morgan, Colorado. Total number of participants: 150. Percent Responsible: 100%. 4th Quarter 2016.

Crop Disease Update. Adult, Loveland, Colorado. Number of times program was made: 1. Total number of participants: 75. Percent Responsible: 100%. 4th Quarter 2016.

Plant Disease Forecasting. Adult, Fort Collins, CO. Percent Responsible: 100%. 4th Quarter 2015.

Wheat Disease Research Update. Adult, Fort Morgan, CO. Percent Responsible: 100%. 4th Quarter 2015.

### **Website Visit**

Wheat Disease Updates. Adult. Total number of participants: 1400. Percent Responsible: 100%. Full Year 2017.

## **COMMITTEES**

Hamel Center Advisory Committee, (2013 - 2015).

Soil microbiome search committee, (August 2017 - December 2017).



Undergraduate Research Conference Organization Committee, (2013 - 2015).  
Development of Undergraduate Major Committee, (November 1, 2017 - Present).  
Education Committee, (August 25, 2017 - Present).  
Microbiome Faculty Search Committee, (January 1, 2016 - May 30, 2016).  
Graduate Program Coordinator, (2014 - 2015).  
DBS Scholarships Committee, (2013 - 2015).  
Graduate Admission Committee, (2013 - 2015).  
Graduate Faculty- Genetics and Microbiology, (2011 - 2015).  
Graduate Faculty- Plant Biology, (2011 - 2015).  
Graduate Restructuring Committee, (2012 - 2013).

**PROFESSIONAL AFFILIATIONS AND ACTIVITIES**

Committee Chair, Mycology Committee, American Phytopathological Society. (2013 - Present).  
Member, Mycological Society of America. (2008 - Present).  
Committee Member, Mycology Committee, American Phytopathological Society. (2008 - Present).  
Committee Member, Soil microbiology and root disease committee, American Phytopathological Society. (2008 - Present).  
Member, American Phytopathological Society. (2007 - Present).  
Chairperson, Ecological and genetic diversity of soilborne pathogens and indigenous microflora. (2012 - 2013).  
Committee Chair, Soil microbiology and root disease committee, American Phytopathological Society. (2012 - 2013).

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