

Carmen M. Greenwood, Ph.D.

Assistant Professor

Department of Fisheries, Wildlife and Environmental Studies
State University of New York at Cobleskill (SUNY Cobleskill)

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Education:	Western Carolina University	Biology (Chemistry minor)	B.S.
	Longwood University	Environmental Studies	M.S.
	North Carolina State University	Entomology	Ph.D.

Professional experience:

- 2014- present. Assistant Professor. Department of Fisheries, Wildlife and Environmental Studies
- 2013- 2014 Visiting Assistant Professor. Department of Biological Sciences. Murray State University
- 2012-2013 Associate Professor and Undergraduate Program Coordinator. Department of Entomology and Plant Pathology. Joint appointment in the Environmental Sciences program. Oklahoma State University
- 2006-2012 Assistant Professor and Undergraduate Program Coordinator. Department of Entomology and Plant Pathology. Joint appointment in the Environmental Sciences program. Oklahoma State University
- 2004-2006 Assistant Professor. Department of Biology, Lake Superior State University
- 1999-2004 Research and Teaching Assistant, Department of Entomology, North Carolina State University

Refereed publications (*publications with students):

- *Foye, S., C. Greenwood, M. Payton and K. Masloski. 2014. Characterization of ground-dwelling arthropod forage communities that support *Colinus virginianus* (Galliformes: Odontophoridae) in two western Oklahoma Wildlife Management Areas. *Rangeland Ecology and Management*. In preparation.
- *Foye, S., C. Greenwood, and M. Payton. 2014. Virulence of indigenous entomopathogenic nematodes (EPN) towards *Diorhabda carinulata*, a potential biological control agent for the reduction of *Tamarix ramosissima* in northern bobwhite habitat. *Southwestern Entomology*. In preparation
- *Giguere, A., C. Greenwood, and M. Payton. 2014. Community composition and resource partitioning of ants (Hymenoptera: Formicidae) in western Oklahoma grassland ecosystems: a critical forage taxon of the northern bobwhite (*Colinus virginianus*). *Rangeland Ecology and Management*. In preparation.
- Greenwood, C., and P. Gagnon. 2014. Preliminary survey of carrion beetle (Coleoptera: Silphidae) community composition in the Land Between the Lakes National Recreation Area of Western Kentucky: A site targeted for re-introduction of American Burying Beetle (*Nicrophorus americanus*). *Conservation Biology*. In preparation.
- *Masloski, K., C. Greenwood, M. Payton. 2014. Grasshopper (Orthoptera: Acrididae) Communities in Northern Bobwhite (*Colinus virginianus*) habitat: spatial and temporal prey availability in a Western Oklahoma Grassland. *Journal of Conservation Biology*. In review
- *Masloski, K., C. Greenwood, M. Payton, M. Reiskind. 2014. Grasshopper (Orthoptera: Acrididae) relative abundance and density: a comparison between standard and novel methods of sampling. *Journal of Orthoptera Research*. Accepted.

- *Masloski, K., M. Payton, M. Reiskind, C. Greenwood. 2014. Evidence for diet-driven habitat partitioning of Melanoplinae and Gomphocerinae grasshoppers (Orthoptera: Acrididae) along a vegetation gradient in a Western Oklahoma grassland. *Environmental Entomology*. Accepted.
- Antonenko, P. and C. Greenwood. 2014. Fostering collaborative problem solving and 21st century skills using the DEEPER scaffolding framework. *Journal of College Science Teaching*. Accepted.
- *Risser, K. and C. Greenwood. 2014. Entomopathogenic nematode (EPN) prevalence and diversity across a state wide precipitation gradient in Oklahoma. *Southwestern Entomologist*. In review
- *Jochim, M., C. Greenwood and K. Risser. 2014. Impacts of grazing (Cattle vs. Bison) and controlled burning on Entomopathogenic Nematode (EPN) prevalence in the Tallgrass Prairie Preserve. *Southwestern Entomologist*. In preparation.
- *Robideau, A., K. Risser and C. Greenwood. 2014. Prevalence of native entomopathogenic nematodes (EPN) in organic versus conventional wheat and beef production systems in Oklahoma. *Southwestern Entomologist*. In review.
- *Masloski, K. and C. Greenwood. 2013. First record of *Myrmecophilus nebrascensis* (Orthoptera: Myrmecophilidae) in Beaver Co., Oklahoma. *Journal of Orthoptera Research*. 22(1): 69-71.
- *Booher, E., C. Greenwood and J. Hattey. 2012. Effects of Soil Amendments on Soil Microarthropods in Continuous Maize in Western Oklahoma. *Southwestern Entomologist*. Vol. 37, No. 1, pp. 12-20.
- *Jones, M. E., Antonenko, P. D., and C. Greenwood. 2012. The impact of collaborative and individualized Student Response System strategies on learner motivation, metacognition, and knowledge transfer. *Journal of Computer Assisted Learning*. 28(3): 477-487.
- *Dubie, T. and C. Greenwood, C. Godsey and M. Payton. 2011. Effects of tillage on soil microarthropods in winter wheat. *Southwestern Entomologist*. 36(1): 11-21.
- *Ibrahim, M., Antonenko, P., Greenwood, C., and Wheeler, D. 2011. Effects of segmenting, signaling, and weeding on learning from educational video. *Learning, Media, and Technology*. 37(3): 220-235.
- Greenwood, C., M. Barbercheck and C. Brownie. 2011. Short term response of soil microinvertebrates to application of entomopathogenic nematode-infected insects in two tillage systems. *Pedobiologia*. (54)(3): 177-186.
- Greenwood, C.M. and E.G. Maurakis. 1998. Breeding Behaviors in *Notropis alborus* (Actinopterygii: Cyprinidae). *VA Journal of Science* 49 (3): 163 -172.

Awards and recognition:

- 2009 Gamma Sigma Delta New Teacher Award of Merit. April 22, 2009. Oklahoma State University.
- 2007 Keynote speaker for docent annual Tall Grass Prairie association meeting, February 2007. "Life under the Tall Grass"
- 2005 Invited to provide welcome address and presentation on "Entomology at Lake Superior State University" for Michigan Entomological Society annual meeting, 3-5 June 2005, Sault Sainte Marie, Michigan
- 2001 Successful nomination of Dr. Mary Barbercheck for NCSU "Equity for Women Award"
- 2001 Research Ethics Fellowship, North Carolina State University
- 2001 Initiated into Sigma Xi, May 9th
- 2001 Selected to participate in the Graduate Student Professional Development Workshop, North Carolina State University
- 2000 Nominated and hosted Mike Duke Memorial Seminar speaker
- 2000 Best graduate student paper award; "Interactions between soil mites and entomopathogenic nematodes" Acarological Society of America annual meeting, Montreal, Quebec, Canada.

Competitive Student Research Awards: Funded

McNair undergraduate research scholarship. January, 2014. Characterization of cuticular hydrocarbons of *Nicrophorus orbicollis* and *N. pustulatus* in the context of solitary versus communal mating. Nick Blumenberg and Carmen Greenwood

National Science Foundation Graduate Student Research Fellowship. March 2013 Impact of *Diorhabda carinulata* (Coleoptera: Chrysomelidae), an introduced biological control agent of *Tamarix* spp. on arthropod forage taxa in arid grasslands. Sunny Evans, M.S. Dept. of Entomology and Plant Pathology, Oklahoma State University.

Niblack undergraduate research scholarship. April, 2012. Conservation of native pollinators using indigenous wildflowers in riparian and wetland developments. Colby Gregg and Carmen Greenwood.

Niblack undergraduate research scholarship. April, 2011. Entomopathogenic nematode diversity of the Tallgrass prairie. Mackenzie Jochim and Carmen Greenwood.

Niblack undergraduate research scholarship. April, 2010. Naturally-occurring biological control of insect pests in organic wheat/beef systems. Alexandra Robideaux and Carmen Greenwood.

Wentz undergraduate research scholarship. April, 2010. Using soil mites as indicators of soil amendment efficacy. Evan Booher and Carmen Greenwood.

Johnston Award Scholarship – Ohio State University summer course in mite taxonomy. June, 2008. \$500 scholarship awarded to M.S. student Trisha Dubie.

Teaching activities:

Courses taught

Course number	Description	Cr	Lab	Enrollment	Semester and year taught	
<i>Murray State University</i>						
BIO216	Biological Inquiry and Analysis	3	yes	30	S	2014
BIO221	Zoology; Animal Form and Function	3	yes	96	F/S	2013-14
BIO101	Biological Concepts (BIO I)	3	yes	77	F	2013
<i>Oklahoma State University</i>						
ENTO2003	Insects and Society	3	no	250	F/S	2006-13
ENTO4733/5733	Insect behavior and chemical ecology (50% of course)	3	no	7	S	2011, 13
ENTO4800	Entomology capstone series	1	no	12	F	2009-12
ENTO4464	Insect biology and classification	4	yes	12	F	2008, 10, 12
ENTO4483/5483	Aquatic entomology (50% of course in 2007,08)	3	yes	16	S	2007, 08, 10, 12
ENTO2993	Introduction to entomology	3	yes	75	S	2008-11
ENTO3051	Entomology for educators	1	no	24	F	2008-09
ENTO3003	Livestock entomology	3	no	24	F/S	2006-07
<i>Lake Superior State University</i>						
BIO132	Organismal Biology (BIO II)	4	yes	80	F/S	2004-06
BIO405	Animal Behavior	3	no	30	F	2004-05
BIO420	Evolutionary Biology	4	no	30	S	2005-06
BIO303	General Entomology	3	no	16	F	2005
BIO478	Field Entomology	3	yes	14	Su	2005
BIO302	Wildlife Parasitology	3	no	24	S	2006

Recruitment, growth and retention within the OSU Entomology undergraduate program

Increased number of undergraduate entomology majors from 2 to 28 in 5 years

Developed 2 new degree options in the undergraduate entomology major

Developed 5 new courses in support of the undergraduate entomology program (ENTO 4483/5483* "Aquatic Entomology", ENTO 3051/5501* "Entomology for Educators", ENTO 4800 Capstone series, ENTO 4733/5733* "Insect Behavior and Chemical Ecology" and ENTO 4464* "Insect Biology and Classification")

Significantly improved departmental effectiveness in university and college level recruitment activities

Promoted undergraduate involvement in research programs, entomology club activities, and faculty laboratories, as part of the Capstone Series, to enhance retention

Instructional Materials Developed for Teaching at Oklahoma State University

ENTO 3003 Laboratories

- Dung pat ecology lab.
- Biological control/ bioassay technique.
- Insect phylogeny and classification
- Insect morphology and development
- Tick identification.

ENTO 2993 Laboratories

- Arthropod phylogeny
- Insect phylogeny (6 labs).
- Insect morphology and physiology.
- Soil ecology lab
- Aquatic insects lab (field trip)/biomonitoring
- "Insect scavenger hunt"

ENTO 2003 projects

- Build-a-bug (construct a new class of arthropod).
- Pet roach project (I incorporated experimental component and scientific method)
- Entomology scrapbook (I revised the criteria to include entomological categories)
- Debates (new project; I devised; students apply formal debate policy to controversial insect-related topics)
- Final project (I defined grading criteria for types of projects; papers, artwork, music, etc.)

Capstone series professional development seminar (one credit hour each semester for Entomology majors)

- Workshop on scientific writing
- Peer-reviewed scientific literature reading comprehension (discussion group)
- Workshop on experimental design
- Workshop on the use of Microsoft Excel and graphing
- Attendance at OAS field meeting or technical meeting (Took ENTO 4800 students to the weekend field meeting every semester)

Manuals and other instructional tools

- ENTO 2003 – Insects and Society:
- Incorporated classroom technology, Desire 2 Learn website, and Classroom Performance System (CPS) or "clickers" into the course to improve student learning and student participation. CPS also provided an informative research tool for an ongoing educational research project I conducted with colleagues in the College of Education

- Sourcebook – edited all chapters, incorporated grading criteria for all projects
- Redefined projects to increase student exposure to scientific literature and scientific issues involving insects
- Scrapbook requirements changed from insect-related to paraphernalia to literature requirements
- Pet roach project now includes a lecture on scientific method and experimental component
- Debates require students to investigate literature on both sides of controversial topics
- Incorporated/revised 7 new lecture topics:
 - Insect thermoregulation (“the weather channel”)
 - Insect behavior (“how’s and why’s of insect behavior”) – also provides introduction to evolutionary biology and natural selection
 - Soil-dwelling arthropods (“Life underground”)
 - Aquatic insects (“the life aquatic”)
 - Forensic entomology (“bugs at the scene of the crime”)
 - Spiders (“little miss Muffett...”)
 - Honeybees & colony collapse disorder

ENTO 3501/5501 – Entomology for educators:

- Developed course and learning objectives; gained approval of CASNR curriculum committee in fall 2007
- Coordinated with College of Education and Department of Agricultural education to accommodate needs of educational students in this course curriculum
- Developed 4 modules of instruction
 - Insect identification
 - Insect collection and preservation techniques
 - Soil ecology
 - Aquatic insects as indicators of biotic integrity
- Edited all modules and compiled them into a manual for the course, with additional resources; bug basics and sources for acquisition of entomological materials.
- Supervised instruction of modules
- Conducted pre and post assessment of the course in order to improve content

Invited Lectures

Murray State University

- BIO 578 Conservation Biology Spr 2014

Oklahoma State University

- PPL5900 Careers and Professionalism Fall 2011, 2012
- ENTO2223 Parasite Biology Fall 2011, 2012
- PPL5004 Nematology Fall 2006, 2010
- ENTO2223 Parasite Biology Fall 2010
- ENTO3051/5501 Entomology for Educators Fall 2008, 2009
- NREM1104 Natural History Fall 2006
- SOIL2124 Introduction to Soil Science Fall 2006

Lake Superior State University

- Biology 230 – Soil Biology Fall 2004, 2005
- Chemistry 445 – Forensic Chemistry Spring 2005
- Biology 284 – General Ecology Fall 2004, 2005

North Carolina State University

- Soil Science 210 – Introduction to Soil Science Fall 2003

Grant activity

Extramural Competitive Grants: Funded

Kentucky Academy of Science. 2014 \$11,600. Occurrence of mammalian prey and scavengers on potential re-introduction sites for *Nicrophorus americanus* at Land Between the Lakes NRA. T. Derting, C. Greenwood, P. Gagnon, H. Passmore, J. Hardin.

Oklahoma Department of Wildlife Conservation – 2014-2016. \$89,936. Assessment of the density and spatial and temporal variation of the American Burying Beetle (*Nicrophorus americanus*) in Oklahoma. Jan 2014- Dec 2016. B. Luttbeg, C. Greenwood, J. Hardin, K. Giles, S. McMurry.

Oklahoma Department of Wildlife Conservation – 2012-2015. \$3,700,000 (\$502,094 dedicated to Entomology portion of study with Dr. Greenwood as the PI of that section). Evaluation of Northern Bobwhite in Western Oklahoma. Aug 2011-July 2017. D. Leslie, C. Davis, D. Elmore, S. Fuhlendorf, F. Guthery, T. O'Connell, C. Greenwood.

XTO Energy Corp./U.S. Fish and Wildlife Service Sep 2012 – Dec 2015– . \$1,130,000. Expanded methodologies for long term monitoring of American Burying Beetle (*Nicrophorus Americana*) survival and characterization of habitat suitability following relocation in Oklahoma. C. Greenwood, K. Giles, J. Hardin, B. Luttbeg and S. McMurray.

USDA Sustainable Agriculture Research and Education (SARE) graduate student award – 2000-2002. \$10,000. Short term response of microinvertebrates to application of entomopathogenic nematode infected insect cadavers. C. Greenwood and M. Barbercheck.

Extramural Competitive Grants: Not funded

USDA- NIFA - (Mar 2013) \$212,655. T. Royer, K. Hickman, G. Michels, A. Knutson, C. Greenwood, K. Giles. Compatibility And Integration Of Fire Disturbance With A Biological Control Agent For Management Of Salt Cedar, *Tamarix*, In Riparian Landscapes. (2013-02354)

NSF-Research Experience for Undergraduates (Aug 2012). \$296,442. G. Fox, C. Greenwood. – A Multidisciplinary Investigation of Riparian and Floodplain Processes following Stream and Floodplain Rehabilitation.

NSF-IOS – (Apr 2012) \$ 294,424. M. Anderson, J. Habiger, S. Kak, B. Fathepure, P. Hoyt, C. Greenwood, P., Canaan. The productivity-associated CORE microbiome for wheat and *Brachypodium*.

NSF- ABI innovation – (Dec 2012) \$495,367. M. Anderson, J. Habiger, R. Kaundal, C. Greenwood, J. Edwards. An informatics approach to model wheat-microbe productivity associations.

USDA – NIFA – (Jan 2013) \$ 297,422. M. Anderson, J. Habiger, R. Kaundal, C. Greenwood. Identifying and characterizing the CORE productivity associated bacteria in wheat.

USDA-NRCS-Conservation Innovation Grant (CIG) (Dec 2011) - \$40,223. C. Greenwood, D. Maronek, S. Lovern, S. Glasgow. Integration of pollinator conservation strategies into NRCS standards; evaluation of pollinator conservation efficacy.

NSF-REU –Research Experience for Undergraduates (Aug 2011) - \$286,935. C. Greenwood, M. Reiskind. Precipitation and Insect Ecology (PIE).

Prairie Biotic Research (Dec 2010). \$998. C. Greenwood. Entomopathogenic nematode community composition in Oklahoma tallgrass prairie habitat.

USDA- EPA-G2008-STAR-K1. (Nov 2008). \$484,736. Enhancing ecosystem services from agricultural lands: Management, Quantification and Developing Decision Support Tools. Giles, K., Bidwell, J., Greenwood, C., Reiskind, M. Warren, J., Godsey, C., Edwards, J., O'Connell, T.

USDA- SARE On-farm research grant: (Feb 2010) \$14,801. Arthropod Pests and their Natural Enemies in an Organic Beef and Wheat Production System. C. Greenwood.

USDA- NIFA – (Nov 2009) \$42,533. Organic production Research and extension planning grant. 2010-2011. Preliminary research and planning meeting with stakeholders to initiate long term feasibility study of organic wheat and beef production in Oklahoma. C. Greenwood, K. Giles, T.Royer, J. Talley, J. Armstrong.

USDA- SARE Research & Planning grant: (Nov, 2009) \$45,308. Integration of naturally-occurring beneficial entomopathogenic nematodes into a sustainable IPM program for winter in Oklahoma. C. Greenwood.

USDA-SARE. (2007). Restoration of fragmented rangelands through large scale fire-grazing interactions \$246,771. Fuhlendorf, S., Hickman, K., Greenwood, C., Elmore, D.

USDA-SARE. (2007). \$46,700. Finding a Place in Southern Plains Cropping Systems: Economic and ecological benefits of introducing Cover Crops. C. L. Godsey and C.M. Greenwood.

Intramural Competitive Grants: Funded

CISR (Committee for Institutional Studies and Research) grant program Murray State University (December, 2013). Viability of the Land Between the Lakes National Recreation Area as a potential reintroduction site for American Burying Beetle (*Nicrophorus americanus*). \$10,165. Carmen Greenwood (PI), Paul Gagnon, James Hardin, Heather Passmore and Terry Derting.

OSU Interdisciplinary Creative Planning Grant Program (July, 2011). Multidisciplinary Climate Science Institute. \$20,000. Duncan Wilson, Keith Owens....Carmen Greenwood. Collaborative grant proposal involving 25 faculty members from 6 different departments.

OSU Interdisciplinary Creative Planning Grant Program (July, 2011). Entangled Genomes. \$20,000. Mark Fishbein....Carmen Greenwood. Collaborative grant proposal involving 20 faculty members from 4 different departments.

OSU Interdisciplinary Creative Planning Grant Program (July, 2011). ECLIPSE: Environment for Contextualized Learning and Insightful Problem Solving Experiences. \$20,000. Pasha Antonenko (Education), Jason Nichols (Institute for Teaching and Learning Excellence), Carmen Greenwood (Entomology), Baski Balasundaram (Mechanical Engineering), John Gelder (Chemistry).

Oklahoma State University Institute for Sustainable Environments (July 2010). \$5000. C. Greenwood, M. Reiskind, J. Angle, L. Landry, S. Gelfand, K. Giles, A. Shufran. BEEES; "Better Environment and Education through Entomological Science."

OSU University Tech fees committee. April 19, 2010. \$16,390: Facilitating the use of classroom responder systems for OSU faculty through registration fee support for students through the University Technology Fees account.

Intramural Competitive Grants: Not funded

Wentz undergraduate research scholarship. April, 2010. Biotic integrity assessment of an Oklahoma stream following re-channelization. Melissa Booher and Carmen Greenwood.

Wentz undergraduate research scholarship. April, 2010. Non-target effects of cattle nematicides on dung beetle populations. Sunny Evans and Carmen Greenwood.

Provost's teaching grant. 2008-2009. \$1261. Use of CPS (Classroom Performance System) to evaluate the effectiveness of "Entomology for Educators."

OAES-OCES/TIP. 2007-2008. \$46,000. Finding a Place in Southern Plains Cropping Systems: Economic and ecological benefits of introducing Cover Crops. Godsey, C.L. and C.M. Greenwood.

OAES-OCES/TIP. 2007-2008. \$125,932. Characterization of aquatic ecosystems to improve land, riparian and water quality management in the cross-timbers. Greenwood, C.M., Storm, D., Turton, D., Fisher, B., Royer, T., Elmore, D., Bidwell, J., Dzialowski, A.

Extension fact sheets

Greenwood C. and E. Rebek. 2009. Detection, Conservation and Augmentation of Naturally Occurring Beneficial Nematodes for Natural Pest Suppression. Oklahoma State University Cooperative Extension Service Fact Sheet EPP7670.

Student mentoring

Teaching assistants

1. Derrick Jent, teaching assistant for BIO 216-01 Sp 14
2. Derrick Jent, teaching assistant for BIO 221-01 Sp 14
3. Brad Richardson, teaching assistant for BIO 221-02 Sp 14
4. Mycah Scoggins, teaching assistant for BIO 221-03 Sp 14
5. David Kesler, teaching assistant for BIO 223-01 Sp 14
6. Derrick Jent, teaching assistant for BIO 221-03 Fall 13
7. Tyler Ward, M.S., teaching assistant for ENTO 4464/5464 Fall 12
8. Casi Jessie, Ph.D., teaching assistant for ENTO 2003 Fall 12
9. Tom Ferrari, M.S. teaching assistant for ENTO 2003 Fall 12
10. Lisa Overall, Ph.D., teaching assistant for ENTO 4484/5484 Sp 12
11. Lisa Overall, Ph.D., teaching assistant for ENTO 4464/5464 Fall 11
12. Kyle Risser, M.S. teaching assistant for ENTO 2003: Fall 10, Sp 11, Spr 12
13. Trisha Dubie, M. S., Ph.D. teaching assistant for ENTO 2003: Sp 07, Fall 07, Sp 08, Fall 08, Sp 09, Fall 09, Sp 10, Fall 11
14. Anndrea Stacy, M.S. teaching assistant for ENTO 2993 Spr 08, ENTO2003: Fall 08, Sp 09, Fall 09, Sp 10, Fall 10.
15. Kody Mullins, M.S. teaching assistant for ENTO 4464 Fall 08
16. Greg Broussard, Ph. D. teaching assistant for ENTO 2003: Fall 07.
17. Lisa Overall, M. S. teaching assistant for ENTO 3003: Sp 07.
18. Matthew Smith, M.S. teaching assistant for ENTO 3003 Fall 07, Fall 08
19. Ngan Nguyen, Ph.D. teaching assistant for ENTO 2003: Sp 07

Graduate Student Advising (Primary advisor for the following)

Kyle Risser, Ph.D., Dept. of Entomology and Plant Pathology, Oklahoma State University: Impacts of habitat fragmentation on the long term survivorship of American Burying Beetle (*Nicrophorus americanus*) Began Jan 2013.

Tom Ferrari, M.S., Dept. of Entomology and Plant Pathology, Oklahoma State University: Effects of interspecific invertebrate competition on American Burying Beetle (*Nicrophorus americanus*). Began Aug 2012

Shane Foye, M.S., Dept. of Entomology and Plant Pathology, Oklahoma State University: Impacts of naturally-occurring entomopathogens on ground-dwelling arthropod forage of Northern bobwhite quail chicks. Finishing July 2014

Kenneth Masloski, M.S., 2014. Dept. of Entomology and Plant Pathology, Oklahoma State University: Comparative analysis of novel and traditional sampling methodology for Acrididae in arid grasslands. Effects of a vegetative gradient on arthropod forage of Northern bobwhite quail chicks.

Allison Guigere, M.S., Dept. of Entomology and Plant Pathology, Oklahoma State University: Resource partitioning in ant communities of arid grasslands in western Oklahoma. Finishing July 2014

Kyle Risser, M.S., 2012. Dept. of Entomology and Plant Pathology, Oklahoma State University: Profile of ecoregion and management practices impacts on abundance and diversity of native entomopathogenic nematodes in Oklahoma,

Warren Hansen, M.S., 2011. Environmental Science, Oklahoma State University: Riparian insects; linkages between aquatic and terrestrial systems.

Anndrea Stacy, M.S, 2011. Dept. of Entomology and Plant Pathology, Oklahoma State University: Impacts of controlled burning on aquatic invertebrate communities in cross-timbers ponds.

Trisha Dubie, M.S., 2009. Dept. of Entomology and Plant Pathology, Oklahoma State University: Impacts of disturbance on soil-dwelling microarthropod communities and entomopathogenic nematodes.

Service on graduate student committees.

Jessica Hoops, M.S., 2014., current. Dept. of Zoology, Oklahoma State University

Crystal Wiles, M.S., 2013. Zoology. Dept. of Zoology, Oklahoma State University.

Lucas Pierce, M.S., 2013, Dept. of Entomology and Plant Pathology, Oklahoma State University:

Sunny Evans, M.S., 2013 Dept. of Entomology and Plant Pathology, Oklahoma State University

Faria Jahanazad, M.S. 2012. Education technology, Dept. of Curriculum Studies, Oklahoma State University.

Cleo Szymgiel, M.S., 2012. Dept. of Zoology, Oklahoma State University.

Mohamed Ibrahim, Ph.D., 2010. Educational Technology, Dept. of Curriculum Studies, Oklahoma State University.

Chad Boeckman, Ph.D., 2010. Dept. of Zoology, Oklahoma State University:

Mark Jones, Ph.D. Education; 2009. Dept. of Teaching Leadership and curriculum development, Oklahoma State University.

Ngan Nguyen; Ph.D. Entomology 2009. Dept. of Entomology and Plant Pathology, Oklahoma State University:

Chance Owen, M.S. 2008. Dept. of Agricultural Education, Oklahoma State University.

Other graduate student supervision

Supervised 1 graduate student (Alex Tobergate) from Dept. of Biosystems Engineering; ENTO 5020 – Biological monitoring “an assessment of aquatic macroinvertebrates in the Illinois River system.” 2011.

Supervised 2 graduate students special topics course fall 09 (Kody Mullins, Alissa Berro); ENTO 5020 Teaching and curriculum development

Supervised 1 graduate student special topics course fall 08 (Chance Owen); ENTO 5020 Teaching and curriculum development

Undergraduate advising and mentoring

- Academic advisor to 9 undergraduate Entomology majors and minors, 2013
- Academic advisor to 14 undergraduate Entomology majors and minors, 2012
- Academic advisor to 24 undergraduate Entomology majors and minors, 2011
- Academic advisor to 28 undergraduate Entomology majors and minors, 2010
- Academic advisor to 24 undergraduate Entomology majors and minors, 2009
- Academic advisor to 17 undergraduate Entomology majors and minors, 2008
- Academic advisor to 11 undergraduate Entomology majors and minors, 2007
- Academic advisor to 2 undergraduate Entomology majors and minors, 2006
- Supervised 3 undergraduate honors projects in ENTO 2003 Fall 13
- Supervised 2 undergraduate honors projects in ENTO 2003 Spr 12
- Supervised 5 undergraduate honors projects in ENTO 2003 Fall 12
- Supervised 2 undergraduate honors projects in ENTO 2003 Spr 11
- Supervised 4 undergraduate honors projects in ENTO 2003 Fall 11
- Supervised 2 undergraduate honors projects in ENTO 2003 Spr 11
- Supervised 3 undergraduate honors projects in ENTO 2003 Fall 10
- Supervised 4 undergraduate honors projects in ENTO 2003 Spr 10
- Supervised 3 undergraduate honors projects in ENTO 2003 Fall 09
- Supervised 3 undergraduate honors projects in ENTO 2003 Spr 09

- Supervised 4 undergraduate honors projects in ENTO 2003 Fall 09
- Supervised 3 undergraduate honors projects in ENTO 2003 Spr 08
- Supervised 4 undergraduate honors projects in ENTO 2003 Fall 08

Presentations at professional meetings or symposia

Greenwood, C., J. Hardin and P. Gagnon. 2014. Preliminary assessment of the impacts of forest management practices on carrion beetle (Coleoptera: Silphidae) community composition in the Land Between the Lakes National Recreation Area in western Kentucky. North Central Branch Meeting, Entomological Society of America., Des Moines, IA, Mar., 2014.

Greenwood, C., Masloski, K., Giguere, A., Risser, K., Ferrari, T. Robideau, A., Jochim, M. 2013. Investigating Invertebrate Roles in Ecosystem Function. Invited Department seminar for the Biology Department, Murray State University, KY

Masloski, K., M. Payton, M. Reiskind and C. Greenwood. 2013. Factors influencing grasshopper (Orthoptera: Acrididae) subfamily distribution along a vegetation gradient in Northern Bobwhite habitat. Southeastern Association of Fish and Wildlife Agencies (SEAFWA). Oklahoma City, OK Oct., 2013.

Foye, S. and C. Greenwood. 2013. Ground-dwelling arthropod assemblages across a habitat gradient occupied by Northern Bobwhite Quail (*Colinus virginianus*) in the Oklahoma Panhandle. Southeastern Association of Fish and Wildlife Agencies (SEAFWA). Oklahoma City, Oct., OK 2013.

Giguere, C. Greenwood. 2013. Ant Community Composition as a component of arthropod forage Availability for Northern Bobwhite Quail in Oklahoma Grasslands. Southeastern Association of Fish and Wildlife Agencies (SEAFWA). Oklahoma City, OK Oct., 2013.

Giguere, C. Greenwood. 2013. Niche-Partitioning and Community Composition of Ants (Hymenoptera:Formicidae) in Oklahoma Grasslands. Entomological Society of America National Meeting. Austin, TX Nov, 2013.

Masloski, Kenneth, M. Reiskind and C. Greenwood. 2013. Influence of habitat gradients on community composition of Acrididae and sampling methodology comparisons in arid grasslands of Western Oklahoma. Southwest Branch Meeting, Entomological Society of America. Las Cruces, NM, Feb, 2013 – 3rd place student competition

Risser, Kyle, M. Jochim and C. Greenwood. 2013. Impacts of Grazing (Cattle vs. Bison) and Controlled Burning on Entomopathogenic Nematode (EPN) Prevalence and Diversity in the Tallgrass Prairie (TGP) Preserve. Southwest Branch Meeting, Entomological Society of America. Las Cruces, NM, Feb, 2013 – 2nd place student competition

Giguere, Allison and C. Greenwood. Niche Partitioning and Community Composition of Ants (Hymenoptera:Formicidae) in Western Oklahoma Grasslands. Southwest Branch Meeting, Entomological Society of America. Las Cruces, NM, Feb, 2013

Foye, Shane, K. Masloski and C. Greenwood. Influence of habitat gradients on arthropod and entomopathogenic nematode community composition in arid western Oklahoma grasslands. Southwest Branch Meeting, Entomological Society of America. Las Cruces, NM, Feb, 2013

Greenwood, C., Masloski, K., Giguere, A., Risser, K., Ferrari, T. Robideau, A., Jochim, M. 2012. Wildlife Conservation *sans vertebrae*. Invited Department seminar for the Biology Department, California Polytechnic Institute, San Luis Obispo, CA.

Ibrahim, M., Antonenko, P. and C. Greenwood. 2012. Implications of Designing Instructional Video Using Cognitive Theory of Multimedia Learning. American Educational Research Association National Meeting. Vancouver B.C., Canada, Apr, 2012.

Ibrahim, M., Antonenko, P. and C. Greenwood. 2012. The relationship between students perceived difficulty of learning materials and knowledge acquisitions in the context of instructional video design based on CTML. Hawaii International Conference on Education. Honolulu, HI, Jan, 2012.

- Masloski, K. and C. Greenwood. 2012. The relationship between total grasshopper (Orthoptera: Acrididae) density and rate of grasshoppers caught per minute across a habitat gradient in a western Oklahoma grassland. Biochemistry and Molecular Biology Graduate Student Association Annual Research Symposium. Oklahoma State University, Stillwater, OK. Sep, 2012.
- Masloski, K. and C. Greenwood. 2012. Comparing the Accuracy and Effectiveness of Three Sampling Methods of Grasshoppers (Orthoptera: Acrididae) in a Western Oklahoma Grassland. Entomological Society of America, National Meeting Knoxville, TN Nov, 2012.
- Giguere, A. and C. Greenwood. 2012. Community Composition and Niche Partitioning Behaviors of Ants (Hymenoptera: Formicidae) in Arid Grasslands of Western Oklahoma. Entomological Society of America, National Meeting Knoxville, TN Nov, 2012.
- Risser, K. and C. Greenwood. 2012. Effects of a distinct precipitation gradient and land use practices on community composition of indigenous entomopathogenic nematodes (EPN) in Oklahoma Entomological Society of America, National Meeting Knoxville, TN Nov, 2012.
- Risser, K, C. Greenwood, and A. Robideau. 2011 Profile of Ecoregion and Management Practices Impacts on Abundance and Diversity of Native EPN taxa. National meeting of the Entomological Society of America. Reno, NV, 2011.
- Navesky, A. and C. Greenwood. 2011. Characterization of aquatic macroinvertebrate communities exposed to prescribed burning and grazing land management practices in Oklahoma Cross Timbers pastureland ponds. Southwestern Branch meeting of the Entomological Society of America. Lubbock, TX. March, 2011.
- Risser, K., C. Greenwood and A. Robideau. 2011. Entomopathogenic Nematodes (EPN) in Oklahoma Beef and Wheat Production Systems: Profile of Ecoregion and Management Practices Impacts on Abundance and Diversity of Native EPN taxa. Southwestern Branch meeting of the Entomological Society of America. Lubbock, TX. March, 2011.
- Robideau, A, C. Greenwood and K. Risser. 2011. Community composition of native Entomopathogenic nematodes (EPN) in organic versus conventional wheat and beef production systems in Oklahoma. Oklahoma State University Research Symposium, March 2011. 2nd place in student poster competition
- Greenwood, C. M. Ibrahim and P. Antonenko. Dec. 12-15, 2010. "Why bugs?: Why a general education course in entomology makes an ideal setting for research in cognitive theory" Invited presentation for Symposium on "Teaching Entomology to Non-Science Majors" Entomology Society of America National Meeting. San Diego, CA.
- Greenwood, C. April 24, 2010. Interactions between entomopathogenic nematodes and microarthropods. Kansas (Central States) Entomological Society annual meeting. Stillwater, OK
- Hanson, W. and C. Greenwood. 2009. Impact of watershed burning and grazing on riparian arthropod communities on Oklahoma State University Research Range ponds. Entomological Society of America, Southwestern Branch. Stillwater, OK.
- Dubie, T. and C. Greenwood. 2009. Impacts of tillage on soil-dwelling microarthropod communities in winter wheat. Entomological Society of America, Southwestern Branch. Stillwater, OK. Third place graduate student competition.
- Greenwood, C.M. 2009. "Impacts of controlled burning and grazing on aquatic macroinvertebrates and riparian insects" for Water Research and Extension Center meeting with NRCS, Stillwater, OK
- Greenwood, C.M. 2009. "Impacts of Land Use on the Invertebrate Interface between Aquatic and Terrestrial Systems" for Water Research and Extension Center meeting with ODWC, Stillwater, OK
- Greenwood, C.M. and M.E. Barbercheck. 2007. Response of soil microarthropod communities to tillage and application of entomopathogenic nematode-infected insect cadavers. Entomological Society of America national meeting, San Diego, CA.
- Greenwood, C.M. and M.E. Barbercheck. 2002. Interactions between soil mites and entomopathogenic nematodes. Sustainable Agriculture Research and Education (SARE) Foundation national conference, Raleigh, NC

Greenwood, C.M. and M.E. Barbercheck. 2000. Interactions between soil mites and entomopathogenic nematodes. Acarological Society of America national meeting, Montreal, Canada. First place graduate student presentation competition

Greenwood, C.M. and M.E. Barbercheck. 1999. Response of soil microarthropods to tillage application of entomopathogenic nematodes. Entomological Society of America national meeting, Atlanta, GA.

Greenwood, C.M. 1998. Breeding behaviors in *Notropis alborus* (Actinopterygii: Cyprinidae) Virginia Academy of Science 76th annual meeting, George Mason University, Fairfax, VA

Professional development and service:

Society Memberships/Affiliations:

Global Soil Biodiversity Initiative

Entomological Society of America

- National. Distinguished Teaching Awards Committee 2006-09.

Secretary for S-1034 Biocontrol working group 2010-11.

Acarological Society of America

Sigma Xi

Oklahoma Academy of Science

- Chair of fish and wildlife conservation committee 2009 (responsible for planning and conducting the organizational field meeting)

Kentucky Academy of Science

Southwestern Society of Entomologists

North American Colleges and Teachers of Agriculture (NACTA)

Peer Reviewer for:

Journal of Natural History

Environmental Entomology

Southwestern Entomologist

Biological Control

Committee service

Oklahoma State University

Selection committee for a classroom responder system (clickers) to be adopted for standardization by the university, 2007- 2013

Steering committee for the graduate environmental science program, 2007-2013

Steering committee for the undergraduate program in environmental science, 2007-2013

OSU Division of Agricultural Sciences and Natural Resources (DASNR)

Curriculum committee for the undergraduate environmental science program 2007-2013

Curriculum committee, 2007-2013

Advisory council, 2006-2013

Search and screen committee for Assistant Dean 2011

Provost's faculty development workshop; diversity; OSU; 2009

Provost's faculty development workshop; science and reasoning; OSU; 2008

Search and screen committee for Assistant Dean 2007

DASNR Research Initiative Team retreat for the Environmental Quality and Waste Management research team, Tulsa OK June 26-27, 2007

DASNR recruiting task force, 2007

DASNR Research Initiative Team Planning and Coordination Conference, 10 October 2006

Academic advisors workshop, using technology, OSU; 26 September 2006

Attended OSU's Early Career Faculty Development Curriculum workshop entitled "What is known about how students learn", 4 October 2006

Department of Entomology and Plant Pathology

Undergraduate program coordinator, 2006-2013
Recruitment and Retention committee chair, 2009-2013
Curriculum 2007-2013
Undergraduate scholarship chair, 2008-2011
Undergraduate assessment chair, 2008-2010
Search and screen committee for Medical/veterinary entomology assistant professor, 2013
Search and screen committee for Soilborne plant pathology assistant professor, 2008
Search and screen committee for Medical/veterinary entomology assistant professor, 2008
Search and screen committee for Department head of entomology and plant pathology, 2008
Departmental seminar series coordinator, 2007

Extension/outreach & service activities

Greenwood, C. 2013. Invited presentation on "Conservation efforts in support of American Burying Beetle in western Kentucky" for the student Wildlife Conservation Society at Murray State University, Murray, KY, February, 2014.

Greenwood, C. 2013. Invited presentation on "Conservation of native pollinators" at the Oklahoma Botanical Garden, Stillwater, OK, May, 2013.

Greenwood, C. 2012. Invited presentation on "Life underground" for "No-till Oklahoma" conference. Norman, OK, June, 2012.

Greenwood, C. 2011. Invited presentation on the undergraduate program in Entomology at OSU for Ag Ambassador's conference Stillwater, OK, 27 Sep. 11.

Greenwood, C. 2011. Hosted a one-day Entomology workshop for the REYAP (Retired Educators for Youth Agricultural Programs). Stillwater, OK, July 11.

Greenwood, C. 2010. Effective teaching presentation for CASNR committee on effective teaching: "Assessment of creative expression through multiple media" Stillwater, OK, March 26.

Greenwood, C. 2010. Invited presentation on the undergraduate program in Entomology at OSU for Ag Ambassador's conference Stillwater, OK, Oct. 04.

Greenwood, C. 2009. Invited presentation on the undergraduate program in Entomology at OSU for Ag Ambassador's conference Stillwater, OK, Oct. 02.

Greenwood, C. 2009. Soil as habitat. Oklahoma Botanical Garden ambassadors, invited presentation. Stillwater, OK

Greenwood, C. 2009. Master Gardener's presentation on "life underground" July, 2009. Bartlesville, OK.

Greenwood, C. 2009. Entomology expedition for the Oklahoma Academy of Science field meeting in Cross Timbers State Park, OK, Oct. 8-9.

Greenwood, C. 2008. Invited presentation on the undergraduate program in Entomology at OSU for Ag Ambassador's conference Stillwater, OK, Sep. 26.

Greenwood, C. 2008. Entomology expedition for the Oklahoma Academy of Science field meeting in Black Mesa, OK, Sep. 25-26.

Greenwood, C. 2008. Invited keynote presentation for Tallgrass Prairie Preserve Docents convention. "Life Underground" Pawhuska, OK.

Greenwood, C. 2007. Aquatic macroinvertebrates and biomonitoring. Workshop on biological monitoring for the Kaw Nation. Stillwater, OK.

Greenwood, C. 2007. Master Gardener's presentation on soil-dwelling entomopathogens, Bartlesville, OK, June, 2007.

Greenwood, C. 2007. Invited presentation on the undergraduate program in Entomology at OSU for Ag Ambassador's conference . Stillwater, OK, Oct. 4.

Greenwood, C. 2007. Invited presentation on the Undergraduate program in entomology (for university admissions dept., OSU)

Greenwood, C. 2007. Entomology expedition for the Oklahoma Academy of Science field meeting in Hulbert, OK, Sep. 28-29.

Greenwood, C. 2007 Entomology presentation for Cascia Hall students; "Dung Pat Ecology" Nov. 9.

Greenwood, C. 2007. Invited presentation on Forensic entomology for Stillwater high school students Nov. 19.

Greenwood, C. 2006. Trip leader for entomology expedition at Oklahoma Academy of Science Fall Field Meeting, Boiling Springs State Park, Sep. 22-23.

Greenwood, C. 2006. Invited presentation for the Sault Naturalists "Living in a bug's world" Jan. 10, 2006. Sault Sainte Marie, MI.

Greenwood, C. 2005. Invited presentations on Entomology and careers in Entomology for Summer Science camp series (3rd & 4th grade, 5th and 6th grade, high school aged campers) at Lake Superior State University, June 20, 2005

Greenwood, C. 2005. Invited presentation for Occupational Education day (11th graders) at Lake Superior State University, April 16, 2005

Greenwood, C. 2005. Integrated Pest Management instructor for Master Gardener series, Kinross, Michigan, May & Nov.

Greenwood, C. 2003. Bugfest; Natural Science museum, Raleigh, North Carolina; established the "Living Soil" exhibit; August 2003.

Greenwood, C. 2002. Invited presentation for the Sustainable Agriculture Internship Program; Center for Environmental Farming Systems (CEFS), Goldsboro, NC; 4-hour Soil Ecology workshop; June, 2002.

Greenwood, C. 2001. Invited presentation on soil-dwelling microarthropods and entomopathogens "Life Underground" at the Center for Environmental Farming Systems Open House, July 2001

Greenwood, C. 2000. Invited presentation and lab exercise on soil microarthropods and predation at the Center for Environmental Farming Systems (CEFS) Sustainable agriculture internship program. July 26, 2000

Greenwood, C. 2000. Bugfest 2000; Natural Science Museum, Raleigh, NC June, 2000

Greenwood, C. 2000. Bug-O-rama; NCSU Libraries, Sep., 2000.

Greenwood, C. 1999. Invited presentation on soil-dwelling pests and beneficial organisms. Sustainable Agriculture Research and Education (SARE) Professional Development Program (PDP) Soil Management Train -the -Trainer Workshop, Raleigh, NC.