

Curriculum Vitae

Kimberly Norris Russell

Mailing Address

Department of Ecology, Evolution and Natural Resources
Rutgers University
14 College Farm Road
New Brunswick, NJ 08901

Phone: ++1 (848) 932 9383

Email: Kimberly.russell@rutgers.edu

Education

2000 **Ph.D.** in Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN
1992 **Bachelor of Arts**, *Magna cum laude*, Honors in Biology, Colgate University, Hamilton, NY

Positions Held

2017 – present **Research Associate**, Division of Invertebrate Zoology, American Museum of Natural History, New York, NY
2015 – present **Assistant Teaching Professor**, Department of Ecology, Evolution and Natural Resources, Rutgers University, New Brunswick, NJ
2011 – 2014 **Research Scientist**, Department of Biological Sciences, New Jersey Institute of Technology, Newark, NJ
2007 & 2013 **Visiting Associate Professor**, Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ
2013 **Adjunct Faculty**, Department of Biology, The College of New Jersey, Ewing, NJ
2007 & 2013 **Part-time Lecturer**, Department of Ecology and Evolutionary Biology, Rutgers University, New Brunswick, NJ
2009-2011 **University Lecturer**, Department of Biological Sciences, New Jersey Institute of Technology, Newark, NJ
2007 (Spring) **Adjunct Lecturer**, Department of Ecology, Evolution and Environmental Biology, Columbia University, New York, NY
2006-2012 **Research Scientist**, Division of Invertebrate Zoology, American Museum of Natural History, New York, NY
2006-2008 **Research Associate Professor**, Federated Department of Biological Sciences, Rutgers University, Newark, NJ
2002–2005 **Post-doctoral Research Associate**, Division of Invertebrate Zoology, American Museum of Natural History, New York, NY
2001–2002 **Juliana Wilson Thompson Visiting Assistant Professor of Biology**, The College of Wooster, Wooster, OH
2001 (April–August) **Research Associate**, USGS Patuxent Wildlife Research Center, Laurel, MD

2001 (January to April) **Visiting Researcher**, Center for Environmental Research and Conservation, Columbia University, New York, NY
1999–2000 **Post-doctoral Research Scientist**, Center for Environmental Research and Conservation, Columbia University, New York, NY
1996 (July/August) **Visiting Scientist**, University of Paisley, Scotland, UK
1993–1999 **Graduate Teaching Assistant**, Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville, TN

Offices

2009 – 2011 **Masters Program Coordinator**, Federated Department of Biology, Rutgers University and NJIT
1998–1999 **Vice-President**, Southern Appalachian Chapter of the Society for Conservation Biology
1996–1997 **President**, Graduate Researchers in Ecology, Behavior, and Evolution, University of Tennessee
1996 **Coordinator**, Graduate Student Outreach Program (educational visits to local schools) sponsored by Graduate Researchers in Ecology, Behavior, and Evolution, University of Tennessee
1995–1996, 1998 **Member**, Graduate Affairs Committee, University of Tennessee
1994–1995 **Officer**, Graduate Organization of the Department of Zoology, University of Tennessee

Grants and Awards

2017 **Alberts Biodiversity Award (PI)**. Increasing the contributions of transmission line easements to pollinator biodiversity: a cost-benefit analysis of vegetative management techniques. \$11,221.
2016 **NSF DBI: Advances in Bioinformatics #1564386 (Named Collaborator)**: ODOMATIC: Automatic Species Identification, Functional Morphology, and Feature Extraction to alleviate the taxonomic impediment and broaden citizen science tools. \$625,755
2010 **Electric Power Research Institute (PI)**. *Use of Transmission Line Easements for the Benefit of Native Bees*. \$203,041
2006 **NCEAS Distributed Graduate Seminar (Seminar Leader)**: *Biodiversity, conservation and ecosystem services in managed landscapes*.
2006 **NSF Planetary Biodiversity Inventory (PBI) #0613754 (Named Investigator)**: The Megadiverse, Microdistributed Spider Family Oonopidae, \$2.6 million
2005 **Travel Grant**, National Science Foundation \$3300
2001 **NSF Biocomplexity in the Environment (IDEA) #0119578 (Co-PI)**: *A Neural Network Based Automated Identification System for Biological Species*, \$796,818
2001 **Juliana Wilson Thompson Visiting Assistant Professor of Biology** (endowed position), The College of Wooster, Wooster, OH, \$2000
1999 **Science Alliance Graduate Student Award of Excellence**, Division of Biology of the University of Tennessee, \$3000

- 1999 **Merit Award**, Department of Ecology and Evolutionary Biology of the University of Tennessee, \$2500
- 1998 **Science Alliance Upgrade**, Division of Biology of the University of Tennessee, \$3000
- 1998 **Travel Grant**, Society for Conservation Biology, \$1000
- 1998 **Travel Grant**, The Graduate School of the University of Tennessee, \$500
- 1998 **Travel Grant**, The Division of Biology of the University of Tennessee, \$200
- 1997 **Ralph M. Sargent Memorial Scholarship Fund** of the Highlands Biological Foundation, Inc., \$1000
- 1996 **American Arachnological Society: Turnover in an Arthropod Assemblage as a Potential Indicator of Community Disturbance**. \$500
- 1996 **Ralph M. Sargent Memorial Scholarship Fund** of the Highlands Biological Foundation, Inc., \$600
- 1996 **Grant-In-Aid** from the Highlands Biological Station, \$400
- 1996 **Graduate Researchers in Ecology, Behavior, and Evolution**, University of Tennessee \$200
- 1996 **Sigma Xi Grant-in-Aid of Research**, \$500

Honors

- 2008 U.S. Nominee, Ebbe Nielsen Prize sponsored by GBIF (Global Biodiversity Information Facility)
- 1992 **Raymond J. Myers Prize in Biology**, Colgate University
- 1989–1992 **Colgate Dana Scholar** (awarded for academic excellence and leadership), Colgate University
- 1988–1992 **Dean's Award for Academic Excellence**, Colgate University
- 1991 **Phi Beta Kappa**, National Honors Society
- 1989 **Beta Beta Beta**, Biological Honors Society

Publications

- Evangelista, D.A., G. Russell, K.N. Russell, G. Bourne & J.L. Ware. 2017. Evidence that dispersal barriers influence blaberoid cockroach assemblages in a neotropical savanna-forest matrix. *Insect Conservation and Diversity*. Doi: 10.1111/icad.12246
- Russell, K.N., K. Kaplan, S. Mian & S. Kornbluth. (*in revision*). Integrated Vegetation Management in Transmission Line Easements Provides Quality Habitat for Wild Bees. *Biodiversity and Conservation*.
- Russell, K.N., S. Mian & C. DeVan. (*in prep*). Using measures of potential nest site diversity to predict native bee richness. *Ecological Applications*.
- Kornbluth, S., G. Russell and K. Russell. (*in prep*). Bee diversity and distribution on a large scale organic farm: Evidence for in-field pollination limitation?
- Russell, K.N. and S. Kornbluth. 2013. Use of transmission line easements for the benefit of native bees. Electric Power Research Institute Technical Report 3002001125.
- Russell, K.N., M.T. Do, J.C. Huff and N.I. Platnick. 2007. Introducing SPIDA-web: wavelets, neural networks and Internet accessibility in an image-based

- automated identification system. In N. MacLeod (ed), Automated Object Identification in Systematics: Theory, Approaches, and Applications. Springer Verlag.
- Russell, K.N., H. Ikerd, and S. Droege. 2005. The potential conservation value of unmowed powerline strips for native bees. *Biological Conservation* 124: 133-148.
- Norris, K.C. (Maiden name) 2000. Guidelines for the use of hyperdiverse taxa in biological monitoring: Change through time in Southern Appalachian spider assemblages. Ph.D. Dissertation, University of Tennessee.
- Norris, K.C. (Maiden name) 1999. Quantifying change through time in spider assemblages: sampling methods, indices, and sources of error. *Journal of Insect Conservation* 3(4), 311-327.
- Do, M.T., J.M. Harp and K.C. Norris. (Maiden name) 1999. A test of a pattern recognition system for identification of spiders. *Bulletin of Entomological Research* 89, 217-224.

Published Abstracts

- Russell, K.N., and S. Kornbluth. 2013. Integrated Vegetation Management in powerline rights-of-way provides quality habitat for native bees. International Congress of Conservation Biology Meeting, Abstracts (<http://www.conbio.org/mini-sites/iccb-2013>)
- Russell, K.N., M.T. Do and N.I. Platnick. 2005. Introducing SPIDA-web: An automated identification system for biological species. Taxonomic Database Working Group Annual Meeting, Abstracts (http://www.tdwg.org/2005meet/paperabstracts/TDWG2005_Abstract_64.htm).
- Russell, K.N., M.T. Do and N.I. Platnick. 2004. Introducing SPIDA-web: A fully automated, digital image-based identification system for biological species. Special Symposium-DNA-Taxonomy: Good-Bye Microscope? Entomological Society of America Annual Meeting, Abstracts (http://esa.confex.com/esa/2004/techprogram/paper_13574.htm).
- Russell, K.N., M.T. Do and N.I. Platnick. 2003. Introducing SPIDA-web: An automated identification system for biological species. American Arachnological Society Annual Meeting, Abstracts (http://www.americanarachnology.org/MeetingAbstracts/AAS_03_abstracts.html).
- Russell, K.N., and S. Droege. 2003. The potential conservation value of unmowed powerline strips for native bees. Society for Conservation Biology Annual Meeting, Abstracts (http://www.conbio.org/SCB/Activities/Meetings/2003/website/contributed_orals.htm#C35)
- Russell, K.N., M.T. Do and N.I. Platnick. 2004. SPIDA-web for spiders: An automated identification system for the species in the Australasian ground spider family Trochanteriidae. 16th International Congress of Arachnology, Abstracts ([http://users.ugent.be/~jpmalf/Abstracts%20Lezingen%20\(all\).pdf](http://users.ugent.be/~jpmalf/Abstracts%20Lezingen%20(all).pdf)).

- Russell, K.N., M.T. Do and N.I. Platnick. 2004. Introducing SPIDA-web: An automated identification system for biological species. The Center for Biodiversity and Conservation's Ninth Annual Spring Symposium-Expanding the Ark: The Emerging Science and Practice of Invertebrate Conservation, Abstracts (<http://research.amnh.org/biodiversity/symposia/archives/expandingthearc/posters.html>).
- Russell, K.N., M.T. Do and N.I. Platnick. 2004. Introducing SPIDA-web: An automated identification system for biological species. Society for Conservation Biology Annual Meeting, Abstracts (<http://www.conbio.org/SCB/Activities/Meetings/2004/talks.cfm>).

Featured Articles

- Ness, Erik. January to March, 2005. "SPIDA-web, SPIDA-web: Artificial neural networks fill in for taxonomists". *Conservation in Practice (Innovations)* 6(1): pg. 35-36.
- Vergano, Dan. August 18, 2005. "Conservationists are all abuzz about honeybee havens." *USA Today*, pg. 7D.
- Graham-Rowe, Duncan. August 26, 2005. "Power lines may provide a haven for bees." *NewScientist.com*.
- Gourdarzi, Sara. September 15, 2005. "Left unmowed, power-line land might suit bees." *Christian Science Monitor*, pg. 14.
- Holden, Constance (editor of *Random Samples*). September 23, 2005 "Where the Bees Are." *Science* 309(5743), pg. 1986
- Lundmark, Cathy. October 2005. "What's the Buzz? Potential habitat for bees." *Bioscience* 55(10).

Professional Activities & Community Outreach

- 2017 Participant in Ernie Oros Bioblitz, Woodbridge, NJ
- 2017 Science Fair Chairman, Bear Tavern Elementary PTO
- 2016 Science Fair Co-Chairman, Bear Tavern Elementary PTO
- 2016 Science Fair Committee, Bear Tavern Elementary PTO
- 2015 Panelist for Women in Science Workshop at Rutgers-Newark.
- 2015 Working with PSE&G to assess steps toward certification by the Right of Way Stewardship Council for management practices that promote wild bees.
- 2015 Faculty Mentor for the Student Conference on Conservation Science-New York (SCCS-NY).
- 2014 Pre-school presentation on native bees, Congregation B'nai Israel, Rumson, NJ.
- 2012 Participant in Rutgers-Newark Bioblitz.
- 2009 Participant in Saw Mill River Coalition Bioblitz.
- 2002-2003 Paid Consultancy for Raintree *Parasites and Partners* series, Brown Reference Group, London.
- 2000-2001 Paid Consultancy for Marshall Cavendish *Insects and Spiders* reference set, Brown Partworks Limited, London.
- 1999 Commissioned identification of a collection of spiders from the AEDC RTE Invertebrate Survey.

Member of Society for Conservation Biology, Ecological Society of America, American Arachnological Society
Manuscript reviews for the Journal of Arachnology & Biological Conservation
National Science Foundation proposal reviews

Departmental Committees

2015 - present DEENR Assessment Committee
2017 DEENR Merit Award PEC Committee
2016 DEENR Curriculum Affairs Committee

Invited Presentations

April 2017. "Making Lemonade: Increasing the Conservation Value of Transmission Line Easements for Wild Bees Through Vegetation Management." EPRI Pollinator Workshop (with Xerces & NFWF), Washington DC.

February 2017. "Making Lemonade: Using Managed Land Under Transmission Lines to Increase Wild Bee Populations. Department of Entomology, Rutgers University, New Brunswick.

February 2017. "Making Lemonade: Using Managed Land Under Transmission Lines to Inform Wild Bee Conservation Efforts." Ecology and Evolution Graduate Program Seminar, Rutgers University, New Brunswick.

November 2014. "Evolution and the Behavior of the Sexes." Upstate Medical School, Syracuse, NY.

February 2013. "Final Report: Use of transmission line easements for the benefit of native bees." Electric Power Research Institute Annual EMF/RF Area Council Meeting, Savannah, GA.

September 2010. "Use of transmission line easements for the benefit of native bees." Electric Power Research Institute Annual EMF/RF Area Council Meeting, San Antonio, TX.

November 2007. "Bees, Spiders and SPIDA-web: Arthropods and Artificial Intelligence in Conservation Planning", Departmental Seminar, Rutgers University, Newark, NJ.

August 2005. "Introducing SPIDA-web: An automated identification system for biological species." Symposium: Algorithmic Approaches to the Identification Problem in Systematics, The Natural History Museum, London.

April 2005. "Spiders, bees and SPIDA: Arthropods and Artificial Intelligence in Conservation Planning", Departmental Seminar, Colgate University, Hamilton, NY.

November 2004. "Introducing SPIDA-web: A fully automated, digital image-based identification system for biological species." as part of the *DNA-taxonomy: Good-Bye Microscope?* Symposium at the annual meeting of the Entomological Society of America, Salt Lake City, Utah, U.S.A.

October 2004. "Bees, Spiders and SPIDA: Arthropods and Artificial Intelligence in Conservation Planning", Departmental Seminar, Rutgers University, New Brunswick, NJ.

October 2001. "Saving the other 99%: Arthropods and Artificial Intelligence in Conservation Planning", Departmental Seminar, College of Wooster, Wooster, OH.

- June 2000. "Importance, obstacles and benefits of incorporating arthropods in conservation planning", Departmental Seminar, Barnard College, New York, NY.
- April 1999. "Change through time and space in Southern Appalachian spider communities: guidelines for the use of hyperdiverse taxa in biological monitoring", Departmental Seminar, Western Carolina University, Cullowhee, NC.
- July 1998. "Quantifying extinction and colonization in spider communities: turnover, predictability, and rarefaction" as part of the *Issues in Spider Conservation* symposium at the annual meeting of the Society for Conservation Biology, Sydney, Australia.

Field Experience

- 2016 – present. Collection of bees & floral survey at nine locations along PSEG transmission line easements in New Jersey.
- 2011 - 2012 Collection of bees & observation of floral visitation by bees along powerline transmission easements in Oregon, Wisconsin and Maryland (funded by EPRI).
- 2008 Collection of bees from the Hackensack Meadowlands, NJ (funded by the Meadowlands Environmental Research Institute) using modified pan traps and netting.
- 2001 Collection of bees and other arthropods from the USGS Patuxent Wildlife Research Center, using modified pan traps and netting.
- 1995–1997 Collection of spiders from Nantahala National Forest, NC using pitfall traps, litter samples processed in Tullgren funnels, sweep netting, vegetation beating, and visual hand collection.
- 1995–1997 Collection of spiders from Knox County, TN using pitfall traps.
- 1996 Collection of spiders from lowland bogs of Scotland using pitfall traps.
- 1995 Collection of spiders from Everglades National Park, FLA using sweep nets and a suction device.
- 1994 Studies of populations of the desert spider, *Agelenopsis aperta* in Southeastern Arizona (at the Southwestern Research Station of the American Museum of Natural History).
- 1988 Observation and documentation of birds feeding at an experimental feeding station in Hamilton, NY.
- 1987 Collection and observation of dragonflies used in thermoregulation studies from sites in Hamilton, NY.

Lab Experience

2017. Identification of bee collections from New Jersey.
- 2011- 2016. Identification of bee collections from Maryland , Wisconsin & Oregon.
- 2002-present Specimen imaging using a digital camera (Q-Imaging micropublisher) and Leica MZ12.5 microscope.
- 2000-2001 Identification of a collection of bees from Prince Georges Co. and Anne Arundel Co., MD (2921 individuals, 24 genera).

1998–1999 Identification of a collection of spiders from Macon Co., NC (5877 individuals, 125 species).
1999 Commissioned identification of a collection of spiders from the AEDC RTE Invertebrate Survey, central Tennessee (160 individuals, 54 species).
1997 Identification of a collection of spiders from Knox Co., TN (1264 individuals, 75 species).
1993–1994 Identification of a small collection of spiders from East Tennessee (50 species).

Teaching Experience

DEENR Senior Capstone (5 semesters) Lecturer, Rutgers
Invertebrate Zoology (3 semesters) Lecturer, Rutgers
Evolution of Sex and Gender in Animals (2 semester), Lecturer, Rutgers
Fundamentals of Evolution (2 semesters), Lecturer, Rutgers
Evolution and the Behavior of the Sexes (1 semester) Lecturer, Princeton
Evolution, undergraduate (2 semesters) Lecturer, NJIT
Evolution, graduate (2 semesters) Lecturer, NJIT
Conservation Biology (1 semester) Lecturer, NJIT
Insects and Human Society (1 semester) Lecturer, NJIT
Ecological Field Methods and Analysis (2 semesters) Lecturer, NJIT
Foundations of Biology: Ecology and Evolution (2 semesters), Lecturer, NJIT
Ecology and Field Biology (1 semester) Lecturer and laboratory instructor, TCNJ
Biodiversity, Conservation, and Ecosystem Services in Managed Landscapes (an NCEAS DGS seminar) (1 semester) Lecturer and working group leader, Columbia University.
Introduction to Populations (1 semester) Lecturer and laboratory instructor, College of Wooster.
Population and Community Ecology (1 semester) Lecturer and laboratory instructor, College of Wooster.
Ethology (1 semester) Lecturer and laboratory instructor, College of Wooster
Animal Behavior (8 semesters) Lecturer, College of Wooster, Princeton University, Rutgers University

Advising Experience

PhD Students

Sarah Kornbluth, Rutgers University (Co-advisor)
Dominic Evangelista, Rutgers University, Newark (Committee Member)
Caroline DeVan, NJIT (Committee Member)

MS Students

Denise Hewitt, Rutgers University (Co-advisor)
Manpreet Kohli, Rutgers University, Newark (Committee Member)

Undergraduate Research

Liza Chang, Rutgers, Research Problems in Ecology, Evolution and Natural

Resources: "Effects of Vegetation Management on Oregon Bumble Bees."

Mary Powley, Rutgers, Honors Research Tutorial. "Use of potted plants to measure pollination spillover effect of bee-friendly habitat plots."

Tesia Lin, Rutgers, Research Problems Ecology, Evolution and Natural Resources:

"Techniques of bumble bee identification methods: efficiency & accuracy."

Liza Chang, Rutgers, Research Problems Ecology, Evolution and Natural

Resources: "Bumble bee diversity in response to vegetation management in an Oregon transmission line easement."

Kayla Drobnis, NJIT Provost's Summer Undergraduate Research Program

"Promoting pollinator-friendly spaces: Effects of isolation and habitat continuity."

Michael Thomas, NJIT Independent Study, "Soil predictors of native bee diversity."

Sameen Mian, NJIT Provost's Summer Undergraduate Research Program

"Analyzing bee nesting behavior"

Karina Arrelucea, Rutgers University, The Louis Stokes Alliance for Minority

Participation (LSAMP), "The effects of powerline management on bumblebees."

Shahira Sanabria, Rutgers University (REU) "SPIDA-web module development:

Incorporation of multiple images and automated image processing techniques"

Alexa Hawrysz, Columbia University "Automated species identification of bees"

Libby Williams, College of Wooster "The effects of salt marsh haying on benthic algal biomass"

Corey Fitch, College of Wooster "Use of a brain parasite as a tool for identifying the point of origin of wild caught salmon"

Julie Raffay, College of Wooster "Effects of hunger level and sex upon the foraging behaviors of the wolf spider, *Pardosa milvina* (Hentz)"

Laura Kriska, College of Wooster "The role of herbivory on coral growth in blue holes and patch reefs on Andros Island, Bahamas"

Chelsea O. B. Hunt, College of Wooster "Effects of isolation and pesticides on the pollinator community and seed set of wild mustard, *Sinapis arvensis*"

Jacqueline Doyle, College of Wooster "Effects of elevation, temperature and humidity on the abundance and diversity of salamanders in the Southern Appalachians"

Eric Pilko, College of Wooster "A study of the phylogenetic systematics of the Charadriiformes (Class: Aves)"

Katie McCreary, College of Wooster "Taxa and density of Zooxanthellae: patterns when comparing temperature, depth and iridescence"