Rachael Winfree

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ACADEMIC APPOINTMENTS

Rutgers University
Distinguished Professor, Ecology, Evolution, and Natural Resources, (2026-present)
Full Professor, Ecology, Evolution, and Natural Resources (2017-2026)
Associate Professor, Ecology, Evolution, and Natural Resources (2013-2017)
Assistant Professor, Entomology (2008-2013)

University of California, Berkeley
Postdoctoral Associate, Environmental Science, Policy & Management (2006-2008)
Advisor: Claire Kremen

Princeton University
Postdoctoral Associate, Ecology and Evolutionary Biology (2004-2005)
Postdoctoral Fellow, Ecology and Evolutionary Biology (2001-2004)
Advisor: Claire Kremen

EDUCATION

Princeton University
PhD, Ecology and Evolutionary Biology, 2001
Advisor: Andrew P. Dobson

Dartmouth College
BA, Government, 1990

AWARDS, BOARDS, EDITORSHIPS

Sustained Research Excellence Award, Rutgers University, 2024
Fellow of the American Association for the Advancement of Science (AAAS), 2022-present
Fellow of the Ecological Society of America, 2021-present

Board of Directors, Xerces Society for Invertebrate Conservation, 2015-present
Advisory Board, Bee Better pollinator-friendly product certification, 2016-present
Web of Science Highly Cited Researcher in ecology/environment, 2015-2019
- One of ~190 researchers worldwide with most papers in top 1% of citations for field
- One of ~21 women worldwide
Oikos Editor's Choice awarded to paper *A conceptual guide to measuring diversity*, 2019
Scientific Advisory Board, Duke Farms of Doris Duke Charitable Foundation, 2018-2019
Associate editor, Global Ecology and Biogeography, 2016-2019
British Ecological Society 'Game-changing breakthrough paper' for Kleijn, Winfree et al. 2015
Subject editor, Ecological Applications, 2012-2015
Board of scientific advisors, The Xerces Society for Invertebrate Conservation, 2012-2015
Faculty member, Faculty of 1000, Theoretical Ecology section, 2011-2015
Rutgers University Board of Governors Research Award for Scholarly Excellence, 2013
Postdoctoral Fellowship, Princeton University Council on Science and Technology, 2001-2004
National Science Foundation Graduate Research Fellowship, 1995-1998

PUBLICATIONS

Publication impact Google Scholar (citations 38,700, H index 61)
* indicates work done while author was a lab undergraduate, graduate student, or postdoc

Winfree, R, *J Reilly, M Genung, and *T Harrison. In minor revision. Perspective: The Pareto principle provides a new way of thinking about biodiversity and ecosystem function at macroecological scales. *Ecology Letters*

Winfree, R, *J Reilly, *D Simpson, *J Greenwood, *I Bartomeus, *F Benjamin, *D Cariveau, *M Genung, *T Harrison, *M MacLeod, *M McCarthy, *R Rader, *M Roswell, *C Smith, and *K Turo. In 2nd round of review. Data on wild bee abundance and plant-pollinator interactions for 364 species of bees in the northeastern USA. *Ecology,* Data Paper section

86 Dormann, C, W Castillo, M Tudanca, P Caradonna, L Burkle, D Rakosy, **R Winfree**, L Zoller, G Benadi, N Bluthgen, C Kaiser-Bunbury, J Frund, G Hartig, T Knight, K Minachilis, M Pichler, J Resasco, T Petanidou, B Tinoco, G Peralta, and D Vazquez. In press. Predicting interaction frequency in plant-pollinator networks. *Ecology*

85 *Greenwood, J W, *K Turo, M Duguid, M Ashton, R Pasquale, K Odanaka, and **R Winfree**. In press. Wild bee responses to forest regrowth after timber harvests depend on species' habitat associations. *Journal of Applied Ecology*

84 *Greenwood, J W, *K J Turo, *K R Urban-Mead, N Joshi, H Grab, D Biddinger, and **R Winfree**. 2026. Phenology leads to different wild bees with different traits pollinating

spring- and summer-blooming crops. *Basic and Applied Ecology* 93: 33-42 doi.org/10.1016/j.baae.2026.04.006

83 *McCarthy, M, *D Simpson, *A Aldercotte, *C Smith, *T Harrison, and **R Winfree**. 2026. Separating sampling bias from abundance shows that different methods catch different wild bees. *Ecology and Evolution* 16:e73060 doi.org/10.1002/ece3.73060

82 *Weinman, L R, *K J Turo, T Ress, J Gardner, and **R Winfree**. 2026. Floral visitation and pollen collection by native bees in mature temperate deciduous forests with diverse understory communities. *Journal of Forestry,* 1-24 doi.org/10.1007/s44392-025-00032-1

81 *Aldercotte, A, *D Simpson, D Naumenko, G van der Heide, S U Atmoko, T M Setia, **R Winfree**, and E Vogel. 2026. Flowering asynchrony and temporal mate restriction in tropical peat swamp forest trees. *Biotropica* 58:e70162 doi.org/10.1111/btp.70162

80 * Simpson, D T, *C Smith, and **R Winfree**. 2025. Wild bees and landcover: bee species' body size does not predict the scale of effect, but bee phenology predicts association with landcover type. *Ecography* 2025: e07982 doi.org/10.1002/ecog.07982

79 *Aldercotte, A, R Widowati, and **R Winfree**. 2025. Differentiating nectar from pollen foraging affects estimates of specialization in plant-pollinator networks: A case study from the Bornean peat swamp forest canopy. *Journal of Tropical Ecology* 41: e25 doi.org/10.1017/S0266467425100175

78 **Winfree, R,** *J Reilly, and M A Genung. 2025. Biodiversity-ecosystem function research must consider abundance, not just diversity. *Nature Reviews Biodiversity* 1: 347-348. doi.org/10.1038/s44358-025-00040-1

77 *Genung, M A and **R Winfree**. 2025. Dominant species stabilize pollination services through response diversity, but not cross-scale redundancy. *Ecology* 106: e4481. doi.org/10.1002/ecy.4481

76 *Turo, K J, *J R Reilly, T P Fijen, A Magrach, and **R Winfree**. 2024. Insufficient pollinator visitation often limits yield in crop systems worldwide. *Nature Ecology & Evolution* 8: 1612-1622. doi.org/10.1038/s41559-024-02460-2

75 *Reilly, J R, I Bartomeus, *D T Simpson, A Allen-Perkins, L Garibaldi, and **R Winfree**. 2024. Wild insects and honey bees are equally important to crop yields in a global analysis. *Global Ecology and Biogeography* 33: e13843 doi.org/10.1111/geb.13843

74 *Smith, C, J A Bonachela, *D T Simpson, *N J Lemanski, and **R Winfree**. 2024. Geometric effects of fragmentation are likely to mitigate diversity loss following habitat destruction in

real-world systems. *Global Ecology and Biogeography* 33: e13826 doi.org/10.1111/geb.13826

73 Peralta, G, P CaraDonna, D Rakosy, J Frund, M Tudanca, C Dormann, L Burkle, C Kaiser-Bunbury, T Knight, J Resasco, **R Winfree**, N Bluthgen, W Castillo, and D Vazquez. 2023. Predicting plant-pollinator interactions: concepts, methods, and challenges. *Trends in Ecology and Evolution* 39: 494-505 doi.org/10.1016/j.tree.2023.12.005

72 *Weinman, L R, T Ress, J Gardner, and **R Winfree**. 2023. Individual bee foragers are less efficient transporters of pollen for the plants from which they collect the most pollen into their scopae. *American Journal of Botany* 110: e16178 doi.org/10.1002/ajb2.16178

71 *Genung, M A, *J Reilly, N M Williams, A Buderi, J Gardner, and **R Winfree**. 2023. Rare and declining bee species are key to consistent pollination of wildflowers and crops across large spatial scales. *Ecology* 104: e3899. doi.org/10.1002/ecy.3899

70 *Lemanski, N, N M Williams, and **R Winfree**. 2022. Greater bee diversity is needed to maintain crop pollination over time. *Nature Ecology and Evolution* 6: 1516-1523 doi.org/10.1038/s41559-022-01847-3

69 *Aldercotte A, *D T Simpson, and **R Winfree**. 2022. Crop visitation by wild bees declines over an eight-year time series —a dramatic trend, or just dramatic between-year variation? *Insect Conservation and Diversity* 15: 522-533. doi.org/10.1111/icad.12589

68 *Simpson, D T, *L R Weinman, *M A Genung, *M E Roswell, *M MacLeod, and **R Winfree**. 2022. Many bee species, including rare species, are important for function of entire plant-pollinator networks. *Proceedings of the Royal Society of London, Series B* 289: 20212689. doi.org/10.1098/rspb.2021.2689

67 Harrison, T, **R Winfree**, and M Genung. 2022. Price equations for understanding the response of ecosystem function to community change. *American Naturalist* 200: 181-192. doi.org/10.1086/720284

66 *Bruninga-Socolar, B, **R Winfree**, and E Crone. 2022. The contribution of plant spatial arrangement to bumblebee flower constancy. *Oecologia* 198: 471-481. doi.org/10.1007/s00442-022-05114-x

65 Allen-Perkins A, and 186 other authors including *D Cariveau, *F Benjamin, *J Reilly, and **R Winfree**. 2022. Data Paper: CropPol: a dynamic, open and global database on crop pollination. *Ecology* 103: e3614. doi.org/10.1002/ecy.3614

64 *Smith, C, *T Harrison, J Gardner, and **R Winfree**. 2021. Forest-associated bee species persist amid forest loss and regrowth in eastern North America. *Biological Conservation* 260: 109202. doi.org/10.1016/j.biocon.2021.109202

63 Senapathi, D and 57 other authors including *F Benjamin, *D Cariveau, *T Harrison, and **R Winfree**. 2021. Wild insect diversity increases inter-annual stability in global crop pollinator communities. *Proceedings of the Royal Society of London B* 288: 20210212. doi.org/10.1098/rspb.2021.0212

62 *Roswell, M E, J Dushoff, and **R Winfree**. 2021. Forum: A conceptual guide to measuring species diversity. *Oikos* 130: 321-338. doi.org/10.1111/oik.07202
Web of Science Highly Cited Paper (top 1% in environment / ecology)

61 Caradonna, P J, L A Burkle, B Schwarz, J Resasco, T M Knight, G Benadi, N Bluthgen, C F Dormann, Q Fang, J Frund, B Gauzens, C N Kaiser-Bunbury, **R Winfree**, and D P Vazquez. 2021. Seeing through the static: the temporal dimensions of plant-animal mutualistic interactions. *Ecology Letters* 24: 149-161. doi.org/10.1111/ele.13623

60 *Reilly JR, Artz DR, Biddinger D, Bobiwash K, Boyle NK, Brittain C, Brokaw J, Campbell JW, Daniels J, Elle E, Ellis JD, Fleischer SJ, Gibbs J, Gillespie RL, Gundersen KB, Gut L, Hoffman G, Joshi N, Lundin O, Mason K, McGrady CM, Peterson SS, Pitts-Singer TL, Rao S, Rothwell N, Rowe L, Ward KL, Williams NM, Wilson JK, Isaacs R, and **Winfree R**. 2020. Crop production in the USA is frequently limited by a lack of pollinators. *Proceedings of the Royal Society of London B* 287: 20200922. doi.org/10.1098/rspb.2020.09222020
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59 *Genung, M A, J Fox, and **R Winfree**. 2020. Species loss drives ecosystem function in experiments, but in nature the importance of species loss depends on dominance. *Global Ecology and Biogeography* 29: 1531-1541. doi.org/10.1111/geb.13137

58 *MacLeod, M, *J Reilly, *D Cariveau, *M Genung, *M Roswell, J Gibbs, and **R Winfree**. 2020. How much do rare and crop-pollinating bees overlap in identity and flower preferences? *Journal of Applied Ecology* 57: 413-423. doi.org/10.1111/1365-2664.13543

57 *Smith, C, *L Weinman, J Gibbs, and **R Winfree**. 2019. Specialist foragers in forest bee communities are small, social or emerge early. *Journal of Animal Ecology* 88: 1158-1167. doi.org/10.1111/1365-2656.13003

56 *Roswell, M, J Dushoff, and **R Winfree**. 2019. Male and female bees show large differences in floral preference. *Plos One* 14(4): e0214909. doi.org/10.1371/journal.pone.0217714

55 *T Harrison, J Gibbs, and **R Winfree**. 2019. Anthropogenic landscapes support fewer rare bee species. *Landscape Ecology* 34: 967-978. doi.org/10.1007/s10980-017-0592-x

54 *T Harrison, J Gibbs, and **R Winfree**. 2018. Phylogenetic homogenization of bee communities across ecoregions. *Global Ecology and Biogeography* 27: 1457-1466. doi.org/10.1111/geb.12822

53 **R Winfree**, *J R Reilly, *I Bartomeus, N M Williams, *D Cariveau, and J Gibbs. 2018. Species turnover promotes the importance of bee diversity for crop pollination at regional scales. *Science* 359: 791-793. doi.org/10.1126/science.aao2117
Web of Science Highly Cited Paper (top 1% in environment / ecology)

52 Bartomeus, I, *D Cariveau, *T Harrison, **R Winfree**. 2018. On the inconsistency of pollinator species traits for predicting either response to land-use change or functional contribution. *Oikos* 127: 306-315. doi.org/10.1111/oik.04507

51 *T Harrison, J Gibbs, and **R Winfree**. 2018. Forest bees are replaced in agricultural and urban landscapes by native species with different phenologies and life history traits. *Global Change Biology* 24: 287-296. doi.org/10.1111/gcb.13921

50 *Genung, M, J Fox, N Williams, C Kremen, J Ascher, J Gibbs, and **R Winfree**. 2017. The relative importance of pollinator abundance and species richness for the temporal variance of pollination services. *Ecology* 98: 1807-1816. doi.org/10.1002/ecy.1876

49 Lichtenberg, E M and 63 others including **R Winfree** and *F Benjamin. 2017. A global synthesis of the effects of diversified farming systems on arthropod diversity within fields and across agricultural landscapes. *Global Change Biology* 23: 4946-4957. doi.org/10.1111/gcb.13714

48 *****Griffin, S R, *B Bruninga-Socolar, M A Kerr, J Gibbs, and **R Winfree**. 2017. Wild bee community change over a 26-year chronosequence of restored tallgrass prairie. *Restoration Ecology* 25: 650-660. doi.org/10.1111/rec.12481

47 *MacLeod, M, *Genung, M (co-first author), and **R Winfree**. 2016. Measuring partner choice in plant–pollinator networks: using null models to separate rewiring and fidelity from chance. *Ecology* 97: 2925-2931. doi.org/10.1002/ecy.1574

46 *****Cariveau, D *G Nayak, *I Bartomeus, *J Zientek, J Ascher, J Gibbs, and **R Winfree**. 2016. The allometry of bee proboscis length and its uses in ecology. *PLoS ONE* 11: e0151482 doi.org/10.1371/journal.pone.0151482

45 *Bruninga-Socolar, B, E Crone, and **R Winfree**. 2016. The role of floral density in determining bee foraging behavior: a natural experiment. *Natural Areas Journal* 36: 392-399. doi.org/10.3375/043.036.0406

44 Rader, R, I Bartomeus, L Garibaldi, M Garratt, B Howlett, **R Winfree**, and 46 other authors including *S Griffin. 2016. Non-bee insects are important contributors to global crop pollination. *PNAS* 113: 146-151. doi.org/10.1073/pnas.1517092112
Web of Science Highly Cited Paper (top 1% in environment / ecology)

43 Kleijn, D, **Winfree, R**, and 56 other authors including *F Benjamin, *D Cariveau, *I Bartomeus. 2015. Delivery of crop pollination services is an insufficient argument for wild pollinator conservation. *Nature Communications* 6: 7414. doi.org/10.1038/ncomms8414
Web of Science Highly Cited Paper (top 1% in environment / ecology)

42 *Cariveau, D, and **R Winfree**. 2015. Causes of variation in wild bee responses to anthropogenic drivers. *Current Opinion in Insect Science* 10: 104-109. doi.org/10.1016/j.cois.2015.05.004

41 *Harrison, T, and **R Winfree**. 2015. Urban drivers of plant-pollinator interactions. *Functional Ecology* 29: 879-888. doi.org/10.1111/1365-2435.12486

40 **Winfree, R,** J Fox, N Williams, *J Reilly, and *D Cariveau. 2015. Abundance of common species, not species richness, drives delivery of a real-world ecosystem service. *Ecology Letters* 18: 626-635. doi: 10.1111/ele.12424
Web of Science Highly Cited Paper (top 1% in environment / ecology)

39 *Benjamin, F and **R Winfree**. 2014. Lack of pollinators limits fruit production in commercial blueberry (*Vaccinium corymbosum*). *Environmental Entomology* 43: 1574-1583. doi.org/10.1603/EN13314

38 Garibaldi, L A, L G Carvalheiro, S D Leonhardt, M A Aizen, B R Blaauw, R Isaacs, M Kuhlmann, D Kleijn, A M Klein, C Kremen, L Morandin, J Scheper, and **R Winfree**. 2014. From research to action: enhancing crop yield through wild pollinators. *Frontiers in Ecology and the Environment* 12: 439-447. doi.org/10.1890/130330
Web of Science Highly Cited Paper (top 1% in environment / ecology) Cover article

37 **Winfree, R**, J Dushoff, N Williams, and C Kremen. 2014. Species abundance, not diet breadth, drives the persistence of the most linked pollinators as plant-pollinator networks disassemble. *American Naturalist* 183: 600-611. doi.org/10.5061/dryad.qq67h

36 *Cariveau, D P, J E Powell, H Koche, **R Winfree**, and N A Moran. 2014. Variation in gut microbial communities and its association with pathogen infection in wild bumble bees (*Bombus*). *ISME Journal* 8: 2369-2379. doi.org/10.1038/ismej.2014.68

35 *Benjamin, F, *J Reilly and **R Winfree**. 2014. Pollinator body size mediates the scale at which land use drives crop pollination services. *Journal of Applied Ecology* 51: 440-449. doi.org/10.1111/1365-2664.12198

34 Garibaldi, L, I Steffan-Dewenter, **R Winfree**, and 44 other authors including *I Bartomeus, *D Cariveau, and *F Benjamin. 2013. Wild pollinators enhance fruit set of crops regardless of honey bee abundance. *Science* 339: 1608-1611. doi.org/10.1126/science.123020
Web of Science Highly Cited Paper (top 1% in environment / ecology)

33 *Bartomeus, I, J Ascher, J Gibbs, B Danforth, D Wagner, S Hedtke, and **R Winfree**. 2013. Historical changes in northeastern US bee pollinators related to shared ecological traits. *PNAS* 110(12): 4656-4660. doi.org/10.1073/pnas.121850311
Web of Science Highly Cited Paper (top 1% in environment / ecology) *Cover article*

32 *Cariveau, D, NM Williams, *F Benjamin, and **R Winfree**. 2013. Response diversity to land use occurs but does not consistently stabilize ecosystem services provided by native pollinators. *Ecology Letters* 16: 903-911. doi.org/10.1111/ele.12126 *Cover article*

31 *Bartomeus, I, M Park, J Gibbs, B Danforth, A Lasko, and **R Winfree**. 2013. Biodiversity ensures plant-pollinator phenological synchrony against climate change. *Ecology Letters* 16: 1331-1338. doi.org/10.1111/ele.12170 *Cover article*

30 **Winfree, R**. 2013. Invited View: Global environmental change, biodiversity, and ecosystem services: what can we learn from studies of pollination? *Basic and Applied Ecology* 14: 453-460. doi.org/10.1016/j.baae.2013.07.004

29 *Rader, R, *J Reilly, *I Bartomeus and **R Winfree**. 2013. Native bees buffer the negative impact of climate warming on honey bee pollination of watermelon crops. *Global Change Biology* 19: 3103-3110. doi.org/10.1111/gcb.12264

28 Kennedy, C., E Lonsdorf, M C Neel, N M Williams, T H Ricketts, **R Winfree**, and 22 other authors including *D Cariveau. 2013. A global quantitative synthesis of local and landscape effects on wild bee pollinators agroecosystems. *Ecology Letters* 16: 584-599. doi.org/10.1111/ele.12082
Web of Science Highly Cited Paper (top 1% in environment / ecology)

27 Williams, N M and **R Winfree**. 2013. Local habitat characteristics but not landscape urbanization drive pollinator visitation and native plant pollination in forest remnants. *Biological Conservation* 160: 10-18. doi.org/10.1016/j.biocon.2012.12.035

26 Mandelik, Y, **R Winfree**, T Neeson and C Kremen. 2012. Complementary habitat use by wild bees in agro-natural landscapes. *Ecological Applications* 22: 1535-1546. doi.org/10.1890/11-1299.1

25 *Bartomeus, I , J Ascher, S Colla, D Wagner, B Danforth, S Kornbluth, and **R Winfree**. 2011. Climate-associated phenological advances in bee pollinators and bee-pollinated plants. *PNAS* 108: 20645-20649. doi.org/10.1073/pnas.111555910

24 **Winfree, R,** *I Bartomeus, and *D Cariveau. 2011. Native pollinators in anthropogenic habitats. *Annual Review of Ecology, Evolution and Systematics* 42: 1-22. https://doi.org/10.1146/annurev-ecolsys-102710-145042

23 **Winfree, R**, B Gross (co-first author) and C Kremen. 2011. Valuing pollination services to agriculture. *Ecological Economics* 71: 80-88. doi.org/10.1016/j.ecolecon.2011.08.001

22 Garibaldi, L, I Steffan-Dewenter, C Kremen, J Morales, R Bommarco, S Cunningham, L Carvalheiro, N Chacoff, J Dudenhöffer, S Greenleaf, A Holzschuh, R Isaacs, K Krewenka, Y Mandelik, M Mayfield, L Morandin, S Potts, T Ricketts, H Szentgyörgyi, C Westphal, **R Winfree**, A Klein. 2011. Stability of pollination services decreases with isolation from natural areas despite frequent honey bee visits. *Ecology Letters* 14: 1062-1072. doi.org/10.1111/j.1461-0248.2011.01669.x
Web of Science Highly Cited Paper (top 1% in environment / ecology)

21 *Bartomeus, I and **R Winfree**. 2011. The Circe principle: Are pollinators waylaid by attractive habitats? *Current Biology* 21: R652-R654. doi.org/10.1016/j.cub.2011.07.010

20 Ollerton, J, **R Winfree,** and S Tarrant. 2011. How many flowering plants are pollinated by animals? *Oikos* 120: 321-326. doi.org/10.1111/j.1600-0706.2010.18644.x
Web of Science Highly Cited Paper (top 1% in environment / ecology)

19 Williams, NM, *D Cariveau, **R Winfree,** and C Kremen. 2011. Bees in disturbed habitats use, but do not prefer, alien plants. *Basic and Applied Ecology* 12: 332-341. doi.org/10.1016/j.baae.2010.11.008

18 Menz, M, RD Phillips, **R Winfree**, C Kremen, MA Aizen, SD Johnson**,** and KW Dixon. 2011. Reconnecting plants and pollinators: challenges in the ecological restoration of pollination mutualisms. *Trends in Plant Science* 16: 4-12. doi.org/10.1016/j.tplants.2010.09.006
Web of Science Highly Cited Paper (top 1% in environment / ecology) Cover article

17 *Fiorella, KA, A Cameron, W Sechrest, **R Winfree**, and C Kremen. 2010. Methodological considerations in reserve system selection: a case study of Malagasy lemurs. *Biological Conservation* 143: 963-973. doi.org/10.1016/j.biocon.2010.01.005

16 **Winfree, R**. The conservation and restoration of wild bees. 2010. Pages 169-197 in R Ostfeld and W Schlesinger, eds, *The Year in Ecology and Conservation Biology*. The New York Academy of Sciences: New York

15 **Winfree, R**, R Aguilar, DP Vázquez, G LeBuhn, and MA Aizen. 2009. A meta-analysis of bees' responses to anthropogenic disturbance. *Ecology* 90: 2068-2076. doi.org/10.1890/08-1245.1
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14 **Winfree, R** and C Kremen. 2009. Are ecosystem services stabilized by differences among species? A test using crop pollination. *Proceedings of the Royal Society of London* 276: 229-237. doi.org/10.1098/rspb.2008.0709

13 Lonsdorf, E, C Kremen, TH Ricketts, **R Winfree**, S Greenleaf, and NM Williams. 2009. Modeling pollination services across agricultural landscapes. *Annals of Botany* 103: 1589-1600. doi.org/10.1093/aob/mcp069

12 **Winfree, R.** 2008. Pollinator-dependent crops: An increasingly risky business. *Current Biology* 18: R968-R969. doi.org/10.1016/j.cub.2008.09.010

11 **Winfree, R**, NM Williams, H Gaines, J Ascher, and C Kremen. 2008. Wild bee pollinators provide majority of crop visitation across land use gradients in New Jersey and Pennsylvania, USA. *Journal of Applied Ecology* 45: 793-802. doi.org/10.1111/j.1365-2664.2007.01418.x

10 **Winfree, R**, NM Williams, J Dushoff, and C Kremen. 2007. Native bees provide insurance against ongoing honey bee losses. *Ecology Letters* 10: 1105-1113. doi.org/10.1111/j.1461-0248.2007.01110.x

9 Greenleaf, S, NM Williams, **R Winfree** and C Kremen. 2007. Bee foraging ranges and their relationship to body size. *Oecologia* 153: 589-596. doi.org/10.1007/s00442-007-0752-9
Web of Science Highly Cited Paper (top 1% in environment / ecology)

8 **Winfree, R**, T Griswold and C Kremen. 2007. Effect of human disturbance on bee communities in a forested ecosystem. *Conservation Biology* 21: 213-223. doi.org/10.1111/j.1523-1739.2006.00574.x

7 Kremen, C, NM Williams, MA Aizen, B Gemmill-Herren, G LeBuhn, R Minckley, L Packer, SG Potts, T Roulston, I Steffan-Dewenter, D Vazquez, **R Winfree**, L Adams, E E Crone, S Greenleaf, TH Keitt, AM Klein, J Regetz, TH Ricketts. 2007. Pollination and other ecosystem services produced by mobile organisms: a conceptual framework for the effects of land-use change. *Ecology Letters* 10: 299-314. doi.org/10.1111/j.1461-0248.2007.01018.x
Web of Science Highly Cited Paper (top 1% in environment / ecology) *Cover article*

6 **Winfree, R**, SK Robinson, D Bengali and J Dushoff. 2006. A Monte Carlo model for estimating the reproduction of a generalist brood parasite across multiple host species. *Evolutionary Ecology Research* 8: 213-236

5 Dobson, AP, D Lodge, J Alder, G Cumming, J Keymer, J McGlade, H Mooney, JA Rusak, O Sala, V Wolters, D Wall, **R Winfree**, and M Xenopoulos. 2006. Habitat loss, trophic collapse, and the decline of ecosystem services. *Ecology* 87: 1915-1924. https://doi.org/10.1890/0012-9658(2006)87[1915:HLTCAT]2.0.CO;2

4 **Winfree, R**, J Dushoff, EE Crone, C Schultz, R Budny, NM Williams and C Kremen. 2005. Testing simple indices of habitat proximity. *American Naturalist* 165: 707-717. doi.org/10.1086/430009

3 Chace, J, C Farmer, **R Winfree**, D Curson, W Jensen, C Goguen, and SK Robinson. 2005. Cowbird (*Molothrus*) ecology: a review of factors influencing distribution and abundance of cowbirds across spatial scales. *Ornithological Monographs* 57: 45-70. doi.org/10.2307/40166814

2 **Winfree, R**. 2004. High offspring survival of the brown-headed cowbird in an invaded habitat. *Animal Conservation* 7: 445-453. doi.org/10.1017/S1367943004001544

1 **Winfree, R**. 1999. Cuckoos, cowbirds and the persistence of brood parasitism. *Trends in Ecology and Evolution* 14: 338-343 *Cover article*

Book chapters and book reviews

Winfree, R. 2020. How does biodiversity relate to ecosystem functioning in real-world systems? Pages 338-353 in R Holt, D Tilman and A Dobson, eds, *Unsolved Problems in Ecology.* Princeton University Press

Winfree, R. 2018. To be a bee. *Science* 361: 137. Review of *Buzz* by Thor Hanson. 10.1126/science.aat9250

Winfree, R, *M MacLeod, *T Harrison, and *D Cariveau. 2015. Conserving and restoring mutualisms. Pages 265-286 in Bronstein, J, ed, *Mutualism*. Oxford University Press

Lonsdorf, E, TH Ricketts, C Kremen, **R Winfree**, S Greenleaf, and NM Williams. 2011. Crop pollination services. Pages 168-187 in P Kareiva et al., eds, *Natural Capital: Theory & Practice of Mapping Ecosystem Services*. Oxford University Press

FEDERAL GRANT FUNDING

PI = Principle Investigator CoPI = Co-Principal Investigator

National Science Foundation, Division of Environmental Biology. Collaborative Research: Assessing wild bee resilience to heat waves across scales of biological organization. J Hemberger (PI), R Winfree (CoPI), N Williams (CoPI). Rutgers amount $174,877, 2027-2029

National Science Foundation, Division of Environmental Biology / Paul D. Allen Foundation. PACSP: Evidence-based conservation for native bees in northeastern forests: A biodiversity frontier. R Winfree (lead PI), *K Turo (CoPI), K Urban-Mead (CoPI). Collaboration with the Xerces Society for Invertebrate Conservation. Total amount $1,631,258; Rutgers amount $934,766, 2025-2030

National Park Service, Inventory of pollinator species at Minute Man National Historical Site (MIMA) and Boston Harbor Islands National Recreation Area (BOHA) to inform mowing management plans. E Crone and R Winfree. Rutgers amount $211,300, 2023-2025

United States Department of Agriculture, NIFA Pollinator Health Program. Spring Fruit Crop Pollinators and Northeastern Forests: High-value Bees in Overlooked Habitats. R Winfree (lead PI), B Danforth (CoPI). Rutgers amount $695,410, 2023-2026

National Science Foundation, Division of Environmental Biology. SG: Broadening biodiversity-ecosystem functioning research to include mutualist networks. R Winfree (sole PI). $219,930, 2020-2023

National Science Foundation / Belmont Forum-BiodivERsA: OBServ: Open Library of Pollinator Biodiversity and Ecosystem Services. N Bartomeus (lead PI), R Winfree (USA PI), L Garibaldi (Argentina PI), D Kleijn (Netherlands PI). Rutgers amount $180,000, 2019-2023

National Science Foundation, Division of Environmental Biology. SG: Synthetic analysis of the importance of species richness to ecosystem services in natural systems. *M Genung (PI), R Winfree (CoPI). Rutgers amount $150,000, 2018-2021

National Park Service. Forest bee-plant network assessment in Great Lakes National Parks. R Winfree (lead PI). Rutgers amount $98,992, 2017-2021

National Science Foundation, Division of Environmental Biology. The role of species dominance in mediating biodiversity-ecosystem function relationships across spatial scales. R Winfree (lead PI), NM Williams (CoPI). Rutgers amount $445,386 including two REU and one CLB supplement, 2016-2020

United States Fish and Wildlife Service. Comprehensively evaluating New Jersey's bee pollinators for the State Wildlife Action Plan. D Jenkins (project manager), T Harrison (PI), R Winfree (PI), and others. Rutgers amount $75,000, 2015-2017

United States Department of Agriculture NIFA SCRI. Developing sustainable pollination strategies for US specialty crops. R Isaacs (lead PI), R Winfree (lead senior investigator). Rutgers amount $187,186, 2012-2017

United States Department of Agriculture, Federal Conservation Innovation Grant. Next steps in pollinator conservation: operations and maintenance, organic habitat restoration, seed mix choices, and assessing conservation effectiveness. M Vaughn (PI), R Winfree (CoPI) and others. Rutgers amount $175,402, 2012-2016

National Science Foundation, Dimensions of Biodiversity (DEB 1046153). Dimensions: Genomics, functional roles, and diversity of the symbiotic gut microbiotae of honey bees and

bumble bees. N Moran (PI), R Winfree (lead senior investigator). Rutgers amount $97,528, 2011-2013

United States Department of Agriculture, Federal Conservation Innovation Grant. Development and validation of protocols for assessing functioning of pollinator plantings for agricultural settings. NM Williams (PI), R Winfree (CoPI), R Isaacs (CoPI). Rutgers amount $87,468, 2010-2013

United States Department of Agriculture, NIFA AFRI. Strategies for promoting reliable crop pollination by native bees. R Winfree (lead PI), NM Williams (CoPI). Rutgers amount $400,000, 2009-2013

National Science Foundation, Division of Environmental Biology. Community disassembly and ecosystem function: pollination services across agro-natural landscapes. $427,810, C Kremen (PI), NM Williams (PI), R Winfree (CoPI), 2005-2008

KEYNOTES, INVITED TALKS AND WORKSHOPS

2026 Keynote speaker, Biodiversity Exploratories conference, Berlin, Germany
Gordon Research Conference, Unifying Ecology Across Scales, Boston, MA

2024 Cornell University, Department of Natural Resources & the Environment
Princeton University, Department of Ecology & Evolutionary Biology and HMEI
Working group on response diversity, OIST, Okinawa, Japan

2023 University of Manitoba, Department of Entomology

2022 iDiv, Germany, Temporal dimensions of interaction networks workshop

2021 Colorado State University, Distinguished Ecologist Lecture Series
University of Alberta, Strickland Lecture

2020 Ecological Society of America, INSPIRE session on network analysis
University of Calgary, Department of Ecology & Evolution
University of California, Davis, Department of Evolution & Ecology
World Biodiversity Forum, Davos, Switzerland

2019 Keynote speaker, Scandinavian Society for Pollination Ecology, Sweden
Stony Brook University, Department of Ecology & Evolution
Temple University, Department of Biology
University of Michigan, Department of Ecology & Evolutionary Biology

2018 Fields Institute, Canada, Emerging challenges in mathematical biology workshop

2017 Connecticut College, Frederick Henry Sykes Memorial Lecture
Ecological Society of America, Symposium on dominant species and function
Freiburg Institute for Advanced Studies, Germany, Workshop on temporal networks

2016 Columbia University, Department of Ecology, Evolution and Environmental Biology
Keynote speaker, International Conference on Pollinator Biology, Health, and Policy
Princeton University, Department of Ecology & Evolutionary Biology
University of Georgia, Institute for Ecology
University of Zurich / ETH Zurich, Müller seminar

2014 University of Idaho / Washington State University joint seminar
University of Pittsburgh, Department of Biology

2013 Dartmouth College, Department of Biology
Harvard Forest, Harvard University
Simon Fraser University, Department of Biology
Washington State University, Department of Entomology

2012 Ecological Society of America, Pollination in a changing world, session organizer
Ecological Society of America, Predicting climate change impacts on pollination services
Entomological Society of America, Pollinator biodiversity and pollination services
Entomological Society of America, The impact of land use decisions on wild bee communities
Status and Trends in European Pollinators, Netherlands, working group member
University of Guelph Ontario, School of Environmental Sciences
University of Illinois, Department of Entomology
University of Michigan, Department of Ecology & Evolutionary Biology
Purdue University, Department of Entomology

2011 Entomological Society of America, Biodiversity and ecosystem services, session organizer
Pennsylvania State University, Department of Entomology

2010 Botanical Society of America, Pollinator community change along human disturbance gradients
Entomological Society of America, Integrating wild crop pollinators into integrated pest management
International Union for the Conservation of Nature, Bumble bee conservation workshop
Michigan State University, Department of Entomology

2009 Cornell University, Department of Entomology, Jugatae Seminar
Entomological Society of America, Human disturbance and the conservation of bees

2008 Ecological Society of America, A meta-analysis of bees' response to anthropogenic disturbance
Farleigh Dickinson University, Department of Biology
Princeton University, Woodrow Wilson School of Public Policy
University of California Davis, Department of Entomology

University of Massachusetts Amherst, Department of Entomology
University of Nevada Reno, Department of Biology
NCEAS working group, Restoring an ecosystem service to degraded landscapes

2007 College of William & Mary, Department of Biology
Rutgers University, Department of Entomology
St. Lawrence University, Department of Biology
Temple University, Department of Biology
University of Wisconsin, Department of Geography
NCEAS working group, Restoring an ecosystem service to degraded landscapes

2006 NCEAS working group, Restoring an ecosystem service to degraded landscapes

2005 NCEAS working group, Restoring an ecosystem service to degraded landscapes
Rutgers University, Ecology and Evolution Graduate Program

2004 Center for Environmental Research and Conservation (CERC), Columbia University

2002 University of Illinois, Champaign-Urbana, Department of Ecology, Ethology & Evolution

CONTRIBUTED TALKS - NATIONAL AND INTERNATIONAL

* indicates work done while author was a lab undergraduate, graduate student, or postdoc

2026 Entomological Society of America, Bees are not a monolith: Variation in species-specific responses to forest management, *JW Greenwood, *T Harrison, *KJ Turo, **R Winfree**

International Conference on Pollinator Biology, Health, and Policy, Wild bee diversity improves apple pollination but is unrelated to surrounding forest composition, *JW Greenwood, **R Winfree**

Entomological Society of America, Designing a monitoring scheme for wild bees: Lessons learned from Boston Harbor Islands National Recreation Area, *Elyse Talley and **R Winfree**

2025 Canadian Society for the Study of Ecology and Evolution, Biodiversity-ecosystem function research needs to consider absolute abundance, not just diversity, **R Winfree**

Ecological Society of America, Biodiversity-ecosystem function research needs to consider absolute abundance, not just diversity, **R Winfree**, *J Reilly, and *M Genung

Ecological Society of America, Wild bee responses to timber harvests depend on species habitat associations, *J Greenwood, *K Turo, and **R Winfree**

Ecological Society of America, Investigating drivers of bee species richness and community composition across the Boston Harbor Islands, *Elyse Talley and **R Winfree**

2024 Entomological Society of America, Floral resource use of native bees in mature deciduous forests, L Weinman, T Ress, J Gardner, and **R Winfree**

Entomological Society of America, How feasible are non-lethal surveys of wild bees on NPS lands?, J Thuma, **R Winfree**, *M McCarthy, N Dorian, *E Talley and E Crone

2023 Ecological Society of America, Forest-associated bees are important pollinators of spring-blooming crops, *J Greenwood, *K Turo, K Urban-Mead, and **R Winfree**

Entomological Society of America, What are the key forage plants for spring bees in forests and can molecular methods improve detection of canopy-level foraging? *K Turo, R Richardson, S Wilhelm, J Giulian, and **R Winfree**

Entomological Society of America, Wild bees have distinct habitat associations and idiosyncratic scales of response (poster), *D Simpson, *C Smith, and **R Winfree**

International Conference on Pollinator Biology, Health and Policy, A global assessment of pollinator limitation in agriculture systems: Prevalence, risks, and the relative importance of wild insects versus honey bees (poster), *K Turo, *J Reilly, T Fijen, A Magrach, and **R Winfree**

International Conference on Pollinator Biology, Health, and Policy, Spring and summer crop pollinators use different habitats (poster), *J Greenwood, *K Turo, K Urban-Mead, and **R Winfree**

Entomological Society of America, Wild bee sampling bias depends on method, location, and time, *M McCarthy and **R Winfree**

2022 British Ecological Society Annual Meeting, A global assessment of pollinator limitation in agriculture systems: Prevalence, risks, and the relative importance of wild insects versus honey bees, *K Turo, *J Reilly, T Fijen, A Magrach, and **R Winfree**

Ecological Society of America, A global assessment of pollinator limitation in agriculture systems: Prevalence, risks, and the relative importance of wild insects versus honey bees, *K Turo, *J Reilly, A Magrach, and **R Winfree**

Ecological Society of America, Isolation-by-distance suggests low effective population density in bumble bees, *D Simpson and **R Winfree**

Ecological Society of America, Greater bee diversity is needed to maintain crop pollination services over time, *N Lemanski, N Williams, and **R Winfree**

Ecological Society of America, Does bees' transport of pollen differ from their scopal pollen collection?, *L Weinman, T Ress, J Gardner, and **R Winfree**

Ecological Society of America, The contribution of plant spatial arrangement to bumble bee flower constancy, *B Bruninga-Socolar, **R Winfree**, and E Crone

Ecological Society of America, Trees for bees: The effect of tree species composition on forest bee communities, *J Greenwood, *C Smith, and **R Winfree**

Ecological Society of America, Does ecosystem function follow the 80/20 rule?, **R Winfree**, *J Reilly, and *M Genung

Ecological Society of America, Long term patterns of temporal mate restriction and reproductive structure in trees from a tropical peat swamp forest. *A Aldercotte, D Naumenko, G van der Heide, S Atmoko, **R Winfree**, and E Vogel

Ecological Society of America, Rates of genetic isolation-by-distance suggest surprisingly low effective population density and dispersal distances in bumble bees, *D Simpson and **R Winfree**

Entomological Society of America, Forest-associated bees of the northeastern USA, **R Winfree**

2021 Entomological Society of America, Rare and declining bee species are key to reliable pollination of wildflowers and crops across large scale, *M Genung, *J Reilly, N Williams, A Buderi, J Gardner, and **R Winfree**

2020 Ecological Society of America, Hill numbers and ecosystem function, *M Genung, *T Harrison, *M Roswell, and **R Winfree**

Ecological Society of America, Ecological price equations for biodiversity-ecosystem function research, *T Harrison, **R Winfree**, and *M Genung

2019 Ecological Society of America, Higher pollinator diversity is needed to pollinate native plant communities compared to crops, *D Simpson, *L Weinman, *M Genung, *M MacLeod, and **R Winfree**

Ecological Society of America, God's Estimator: Using the concept of mean species rarity to estimate diversity with Hill numbers, *M Roswell, **R Winfree**, and J Dushoff

Ecological Society of America, Forest-associated bees persist and contribute to the pollination of a declining native forest wildflower in fragmented New Jersey landscapes, *C Hamilton, *C Smith, *M Genung, and **R Winfree**

Ecological Society of America, Forest specialist bees persist amid forest loss and regeneration in northeastern North America, *C Smith, *T Harrison, J Gardner, and R **Winfree**

Ecological Society of America, Surplus pollination provides resistance against the effects of biodiversity loss, *M Genung, N Williams, J Gardner, and **R Winfree**

Ecological Society of America, Rapid changes in identity of dominant pollinators across space increases the number of species needed for ecosystem function, *A Matthews, *M Genung, and **R Winfree**

2018 Entomological Society of America, Patterns of forest bee biodiversity in human-modified landscapes, *C Smith, *T Harrison, and **R Winfree**

2017 Ecological Society of America, Bees in trees: how do forest bees use floral resources?, *C Smith, *L Weinman, J Gibbs, and **R Winfree**

Ecological Society of America, Do pollinator restoration benefits extend to rare bee species?, *D Cariveau, *M Roswell, *T Harrison, and **R Winfree**

Ecological Society of America, Male and female bees visit different flower species, *M Roswell and **R Winfree**

Ecological Society of America, Evenness predicts the importance of species loss for ecosystem services, *M Genung and **R Winfree**

Ecological Society of America, Anthropogenic landscapes support fewer rare bee species, *T Harrison and **R Winfree**

2016 Ecological Society of America, Morphological trait matching between bees and flowers drives pairwise interactions, *J Zientek, *M Roswell, *D Cariveau, and **R Winfree**

Ecological Society of America, The role of floral density in determining bee foraging behavior (poster), *B Bruninga-Socolar, E Crone, and **R Winfree**

International Association for Landscape Ecology (US-IALE), The landscape ecology of rare bee species, *T Harrison, *R Tucker, and **R Winfree**

International Congress of Entomology, The economic contributions of wild bees to crop pollination, *J Reilly and **R Winfree**

International Congress of Entomology, Measuring partner choice in plant-pollinator networks: separating 'rewiring' and 'fidelity' from chance using a null model approach, *M Genung, *M MacLeod, and **R Winfree**

2015 Ecological Society of America, Using the Price equation to understand ecosystem service stability in real-world systems, *M Genung, J Fox, and **R Winfree**

Ecological Society of America, Urbanization homogenizes traits within and between bee communities, *T Harrison, and **R Winfree**

Ecological Society of America, The advantages of unequal sampling effort for measuring species richness, *M Roswell, *D Cariveau, and **R Winfree**

Ecological Society of America, Species abundance distributions and differences in plant attractiveness influence plant-pollinator network disassembly, *M MacLeod, *M Genung, and **R Winfree**

Ecological Society of America, High abundance and complementarity, but not species richness, of rare and declining bees in flowering agricultural crops, *F Benjamin and **R Winfree**

Entomological Society of America, Conserving and enhancing wild bees for crop pollination: The importance of species identity and community composition, *D Cariveau, *I Bartomeus, *T Harrison, and **R Winfree**

Entomological Society of America, Getting from pollinator visitation to yield: a synthesis across multiple crop types, *J Reilly and **R Winfree**

Entomological Society of America, Wild bee community change over a 26-year chronosequence in a restored tallgrass prairie, *S Griffin, *B Bruninga-Socolar, M Kerr, J Gibbs and **R Winfree**

Society for Ecological Restoration, Wild bee community change over a 26-year chronosequence of restored tallgrass prairie (poster), *S Griffin, *B Bruninga-Socolar, M Kerr, J Gibbs, and **R Winfree**

2014 British Ecological Society and Société Française d'Écologie (joint meeting in Lille, France), Using the Price equation to predict ecosystem services in natural systems, *M Genung, J Fox, and **R Winfree**

Ecological Society of America, The allometry of bee tongue length and its uses in ecology, *I Bartomeus, *D Cariveau, G Nayak, *J Zientek, and **R Winfree**

Ecological Society of America, Land use interacts with seasonal phenology in pollinator communities, *T Harrison and **R Winfree**

Ecological Society of America, Do rare and ecosystem-service providing bees prefer the same plant species?, *M MacLeod and **R Winfree**

Ecological Society of America, More pollinator species are required for pollination function at larger spatial scales, but high regional dominance can suppress this effect, *J Reilly, *I Bartomeus, *D Cariveau, *F Benjamin, and **R Winfree**

Ecological Society of America, How much sampling is necessary for pollinator biodiversity assessment? (poster), *M Roswell, *D Cariveau, and **R Winfree**

Ecological Society of America, The effect of pollinator restorations on bee community composition (poster), *J Zientek, *D Cariveau, and **R Winfree**

Ecological Society of America, Can pollinator habitat plantings restore both biodiversity and ecosystem services? *D Cariveau, *M Macleod, and **R Winfree**

Ecological Society of America, Abundance, not species richness, drives ecosystem service delivery at large spatial and temporal scales, **R Winfree**, J Fox, *J Reilly, D Cariveau, and *F Benjamin

Ecological Society of America, Assessing functioning of pollinator habitat plantings for agricultural settings, K Ward, E May, R Isaacs, *D Cariveau, **R Winfree**, and N Williams

Entomological Society of America, Biotic homogenization of bee communities across spatial scales, *T Harrison and **R Winfree**

Entomological Society of America, Pollination services versus biodiversity conservation on agro-ecosystems: Compatible or conflicting objectives? *D Cariveau, *M MacLeod, *F Benjamin, and **R Winfree**

2013 Ecological Society of America, Pollinator ecological traits mediate the loss of pollination services with agricultural intensification, *I Bartomeus, *D Cariveau, and **R Winfree**

Ecological Society of America, Microbial gut symbiont communities of native *Bombus* differ by species but not habitat type, *D Cariveau, J E Powell, **R Winfree**, and N Moran

Ecological Society of America, Lack of pollinators limits fruit production in commercial blueberry, *F Benjamin and **R Winfree**

2012 Ecological Society of America, Winners and losers among bee species during a century of global change, *I Bartomeus, J Ascher, and **R Winfree**

2011 Ecological Society of America, Ecosystem services from native bees: What scale matters? *F Benjamin and **R Winfree**

Ecological Society of America, Response diversity across bee species stabilizes pollination function, *D Cariveau and **R Winfree**

Ecological Society of America, Complementary habitat use by wild bees in agro-natural landscapes, Y Mandelik, and **R Winfree**

Ecological Society of America, Pollinator community disassembly across land use gradients, **R Winfree**, C Kremen, and J Dushoff

Entomological Society of America, Climate-associated phenological advances in bee pollinators and bee-pollinated plants, *I Bartomeus and **R Winfree**

Entomological Society of America, Native plant preferences of pollinators and natural enemies, *M MacLeod and **R Winfree**

2010 Ecological Society of America, Differential responses to land cover by native bees pollinating cranberry, *D Cariveau and **R Winfree**

Ecological Society of America, Landscape change does not drive disassembly of pollinator communities or pollination of spring wildflowers, N Williams and **R Winfree**

Entomological Society of America, Patterns of pollinator community disassembly resulting from forest fragmentation, **R Winfree**, C Kremen, and J Dushoff

Entomological Society of America, Pollination services from native bees: What scale matters? *F Benjamin, *D Cariveau, and **R Winfree**

2009 U.S. Society for Ecological Economics, A new method for valuing crop pollination, B Gross and **R Winfree**

2008 Conference on the Ecology & Evolution of Plant-Pollinator Interactions, The honey bee pollination crisis: where can native bees take up the slack?, C Kremen, N Williams, and **R Winfree**

Entomological Society of America, Valuing crop pollination, **R Winfree** and B Gross

International Congress of Entomology, Responses of bees to changing landscapes, N Williams, C Kremen, and **R Winfree**

2007 Ecological Society of America, The insurance value of ecosystem services provided by wild bees (poster), **R Winfree**, N Williams, and C Kremen

2006 Ecological Society of America, Ecosystem services provided by wild bees in New Jersey and Pennsylvania, **R Winfree**, N Williams, and C Kremen

2004 Ecological Society of America, Testing indices of habitat proximity, **R Winfree**, J Dushoff, E Crone, C Schultz, and C Kremen

Society for Conservation Biology, Effect of suburban and agricultural development on wild bee biodiversity, **R Winfree**, N Williams, and C Kremen

2003 Ecological Society of America, High offspring survival in a novel habitat for an invasive species, the brown-headed cowbird (*Molothrus ater*), **R Winfree**

2001 Society for Conservation Biology, Factors influencing the breeding success of the brown-headed cowbird (*Molothrus ater*), **R Winfree**

1999 Society for Conservation Biology, Cowbird reproduction in forests and old fields, **R Winfree**

TEACHING

Courses

Co-Instructor and organizer for Advanced Ecology (graduate, Rutgers), 2025-present
Instructor for Conservation Ecology (undergraduate, Rutgers), 2018-present
Instructor for Ethics & Development in Ecology & Evolution (graduate, Rutgers), 2024-2025
Co-Instructor for Advanced Ecological Data Analysis (graduate, Rutgers), 2017-2021

Instructor for Foundations of Ecology (graduate, Rutgers), 2013-2018
Co-Instructor for Principles of Ecology (undergraduate, Rutgers), 2014-2017
Instructor for Conserving and Restoring Mutualisms (graduate, Rutgers), 2012
Instructor for Insect Ecology (graduate, Rutgers), 2012-2013
Instructor for Pollination Ecology (graduate, Rutgers), 2010-2011
Instructor for Conservation Biology (undergraduate, Princeton), 2005
Instructor for Biostatistics tutorial (undergraduate, Princeton), 2001

MENTORING

Job placement in italics

Postdoc Advisor

Dr. Katie Turo (2021-2025), *Assistant Professor, Fordham University*
Dr. Natalie Lemanski (2020-2022), *Assistant Professor, Ramapo College*
Dr. Tina Harrison (2016-2017), *Postdoc, University of California, Davis*
Dr. Mark Genung (2014-2018), *Assistant Professor, University of Louisiana*
Dr. Geetha Nayak, Fulbright Postdoctoral Fellow (2011-2012), *UN Environment Programme*
Dr. Romina Rader (2011), *Lecturer (tenure track), University of New England, Australia*
Dr. Ignasi Bartomeus (2010-2012), *Researcher (tenure track), EBD-CSIC, Spain*
Dr. Daniel P. Cariveau (2009-2015), *Assistant Professor, University of Minnesota*

Ph.D Primary Advisor

Robin Henrikson (2026-present), BS Williams College, Simons Foundation Graduate Fellowship
Elliott Smith (2026-present), BS University of Michigan
Elyse Talley (2023-present), BS University of Evansville
Joanna Greenwood (2021-2027), BS George Fox University, USDA AFRI Predoctoral Fellowship
Max McCarthy (2020-2026), BS Tufts
Andrew Aldercotte (2020-2025), BS UC Santa Cruz, Fulbright Fellowship, *Entrepreneur*
Dylan Simpson (2018-2024), MS William & Mary, *Postdoc, Chicago Botanic Garden*
Lucia Weinman (2017-2023), BS Columbia, *Postdoc, UC Davis*
Michael Roswell (2014-2020), BS Swarthmore, NSF GRF, *Postdoc, Univ of Maryland*
Colleen Smith (2014-2020), BS University of Michigan, *Postdoc, UC Santa Barbara*
Bethanne Bruninga-Socolar (2012-2018), BS Swarthmore, *Postdoc, University of Minnesota*
Tina Harrison (2011-2016), BS Dartmouth, *Postdoc, UC Davis*
Molly MacLeod (2010-2015), BS Marlboro, EPA STAR, *Director of Science Content, Pfizer*
Faye Benjamin (2009-2015), BS Brown, *Adjunct Professor, Hofstra University*

MS Primary Advisor

Sean Griffin (2012-2015), BS Cornell, NSF IGERT, *Ph.D student, North Carolina State University*

Undergraduate Independent Research Advisor

R Unz (2018-2021) Cook Honors Thesis *Ph.D. student, Rutgers University*
A Scheiner (2019-2021) *Ph.D student, Northwestern University*
K Londono (2018-2020) received NSF-REU

A Matthews (2017-2020) received NSF-REU *Intern, Molecular Biology, Princeton University*
C Hamilton (2017-2019) received NSF-REU *MS student*, *Pennsylvania State University*
R Tucker (2014-2017) Aresty Award *Graduate School of Education, University of Virginia*
H Patel (2014) Aresty Award *Graduate student, Drexel College of Medicine*
J Zientek (2013-2016) Aresty Award *Lab manager, Oakland University*
K Himmler (2014-2015) Aresty Award *MS student, Loyola University Chicago*
A Cohen (2014) 1st place student poster, Entomological Society of America Eastern Branch
Ph.D student, University of Washington
S Hauser (2012) *Ph.D student, University of Louisiana*
B Johnson (2012) *Ph.D student, University of Western Australia*

MEDIA

2025 *Guardians of the Microcosm*, film by Lucky Films, Switzerland, to be released 2027

2024 *SeedWorld*, Are Pollinator Shortages Limiting Crop Yields?, 27 August

Earth.com, Crops worldwide are insufficiently pollinated, 27 August

Phys.org, Lack of pollinators limits worldwide food production, crop yield analysis finds 27 August

EcoWatch, Global Food Production Limited by Lack of Pollinators Is 'Cause for Concern and Optimism,' Researchers Say, 27 August

ScienceDaily, Are crops worldwide sufficiently pollinated?, 26 August

Rutgers Today, A Rutgers-led study shows diminished crop yield is globally common but low yields could be addressed by increasing the number of pollinators, 22 August

2023 *Knowable Magazine*, The underappreciated benefits of wild bees, 21 August

Good Fruit Grower, Pollination needs more bees, please, 15 March

Entomology Today, Evidence for Biodiversity Insurance Hypothesis: More Species Are Indeed Beneficial, 23 February

2022 *NSF Science Matters*, The importance of bee-ing together, 19 September

PennLive, What's driving down bees on Pennsylvania farms?, 3 August

EurekAlert!, A natural phenomenon or a warning?, 17 July

Asbury Park Press, Why many NJ lawns are wildly overgrown (and why that's a good thing), 24 May

Bulletin of the Atomic Scientists, Latest buzz: rare bees essential part of diverse, resilient ecosystems, 21 April

Rutgers Today, Why You Should Care About Biodiversity, 19 April

Northern Woodlands, Seeing the Forest for the Bees, 1 March

2021 *New Jersey 101.5*, Can it be saved? American bumblebee disappearing in New Jersey, 8 December

Entomology Today, In a New Study, Spring Forest Bees Get Their Due, 12 November

New York Times, *Science Times* profile of Ph.D student Max McCarthy, To Learn Bees' Secrets, Count Them One by One, 16 October

2020 *CNN Call to Earth*, The bee population is dying. Researchers have created the first global map of the species to save them, 19 November

American Bee Journal, There is currently a pollination shortfall in several major United States crops, October issue

World Economic Forum, Bee population numbers are dropping - and US crop yields could plummet as a result, 11 August

Smithsonian Magazine, Wild Bees Are Worth $1.5 Billion for Six U.S. Crops, 5 August

Science News, Wild bees add about $1.5 billion to yields for just six U.S. crops, 4 August

Green Queen, Bee Population Decline Leads To Food Crop Shortages, Scientists Find, 3 August

The Guardian (USA), Loss of bees causes shortage of key food crops, study finds, 29 July

Forbes, American Farms Could Use More Bees, Scientists Say, 29 July

Michigan State University News, National study documents U.S. specialty crop farmers can increase yields through improved pollination, 29 July

Phys.org, Decline of bees, other pollinators threatens US crop yields, 28 July

2019 *Science Daily*, With flower preferences, bees have a big gap between the sexes, 24 April

Rutgers Today, Female and male bees of the same species frequent different flowers, Rutgers-led study finds, 23 April

2018 *NSF Stories* (NSF web site), Pollinator Biodiversity: What's all the buzz about?, 5 July

Science 359: 741-742, Perspective: The value of pollinator species diversity, 16 February

Earth.com, More species of wild bees means more crops for humans, 15 February

Phys.org, The more kinds of bees, the better for humans, study finds, 15 February

2016 *National Wildlife* magazine, Being there for bees, April/May

2015 *Nature, Research Highlight*, Pollination is more than bees, 3 December

Vox, What all those dying bees can tell us about the real value of nature, 6 July

NJ News TV interview, Research shows number of bees not number of species improves pollination, 23 June

The Washington Post, Wild bees are dying off and need to be protected - but not for the reasons you think, 22 June

Los Angeles Times, Just a handful of wild bees do most of the pollination work, 17 June

Wired (UK), Protecting more wild bees will save our food supply, 17 June

The Independent (UK), Wild bees just as important as honey bees for pollinating food crops, 17 June

The Guardian (UK), Bees are worth millions to farmers across the globe, study suggests, 17 June

Conservation magazine, Putting a price on pollinators, 17 June

NJ Spotlight News, Wild Bees: It's How Many, Not Which Ones, that Counts, 8 June

Nature, Research Highlight, Rare bees barely benefit ecosystem, 20 May

2014 *New York Times*, Carl Zimmer, Clues to bees' history tucked away in drawers, 25 November

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2013 *Philadelphia Inquirer*, GreenSpace: Best to be your bee's keeper, 4 August

Los Angeles Times, Floral infidelity among bees rises when competition falls, study says, 22 July

Science Daily, Pollinators easily enhanced by flowering agri-environment schemes, 10 June

Fox News, Wild versus domesticated bees (interview), 22 May

Science 'Perspective' The global plight of pollinators, 29 March

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NPR national program 'The Salt,' Wild bees are good for crops, but crops are bad for bees, 1 March

Los Angeles Times, Farmers' lack of bees could be solved by going wild, 28 February

2012 *Current Biology* 22:132-133, Plant-pollinator synchrony tested by climate change

Philadelphia Inquirer, Philly-area residents join national bee count, 13 August

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Yale Environment Review, Shifting bee seasons could disrupt pollination, spring issue

Scientific American, Hive and seek: domestic honeybees keep disappearing, but are their wild cousins in trouble too? 8 May

The Wildlife Professional 6: 13, Pollination gap, spring issue

2011 *Cornell Chronicle*, As Earth warms, plants and bees keep pace, study reports, 12 December

Nature 479: 164-165, Commentary: What's best for bees? 10 November

Science News, Backup bees, 9 April

New York Times, Is a pesticide harming all those bees? 1 April

2010 *American Bee Journal*, UC Davis native pollinator specialist receives USDA grant aimed at improving pollinator habitat plantings nationwide, December issue

2009 *National Public Radio (NPR)* WHYY Philadelphia, Local bees pitch in on pollination, 25 June

National Wildlife Magazine, The buzz on native pollinators, June/July

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New York Times, A low-tech treatment for bee plague, 27 January

2008 *Worldwatch Magazine*, Pollination panic, November/December

National Geographic Magazine, Tiny radio tags offer rare glimpse into bees' universe, 14 November

The Scientist, A bee's life, October issue

Science News, Bumblebees deliver disease, 16 August

The Philadelphia Inquirer, Seeking pollinators in wings, 7 July

Audubon magazine, Plan bee, May/June

The Wildlife Professional (The Wildlife Society), The buzz on bees, spring issue

San Diego Union-Tribune, Radios on bees track movements and might help save pollinators, 18 December

American Bee Journal, Ecologists assess the impact of people on pollinators, September

Macon, GA *Telegraph*, Interest in native bees on the rise, 19 July

2007 *Science News*, Eastern farms have native-bee insurance, 24 November

Organic Gardening magazine, The bee crisis, winter issue

The Christian Science Monitor, Progress on collapsing beehives, 8 November

New Jersey Public Television, Crop pollination, 8 August

New Jersey Public Television, Pollinator week, 24 June

Neue Zürcher Zeitung, Zurich, Unterschätzte Wildbienen, 7 November

2006 *Defenders of Wildlife* magazine, The buzz about bees, winter issue

2001 *Science Now*, Cowbirds hijack forest nests, 31 July

1999 *Financial Times*, London, Ungodly behavior by darling of the spring, 18 December

PROFESSIONAL SERVICE

External

2026 Ecological Society of America Fellows/Early Career Fellows Committee

2025 Ecological Society of America Fellows/Early Career Fellows Committee

2024 Ecological Society of America Fellows/Early Career Fellows Committee

Grant panelist, National Science Foundation, Division of Environmental Biology (NSF-DEB), Washington DC

2018 Grant panelist, National Science Foundation, Division of Environmental Biology (NSF-DEB), Washington DC

2016 Grant panelist, National Science Foundation, Division of Environmental Biology (NSF-DEB), Washington DC

2013 Grant panelist, National Science Foundation, Division of Environmental Biology (NSF-DEB), Washington DC

2012 Grant panelist, USDA NIFA-Agriculture and Food Research Initiative (AFRI)

2011 Grant panelist, USDA NIFA-Agriculture and Food Research Initiative (AFRI)

2010 Grant panelist, USDA NIFA-Agriculture and Food Research Initiative (AFRI)

Grant peer reviewer for National Science Foundation (NSF; frequent), MacArthur Fellowship 'Genius Award', United States Dept of Agriculture (USDA NIFA), National Science and Engineering Research Council of Canada (NSERC), National Fish and Wildlife Foundation

Peer reviewer for *Nature (frequent), Science, PNAS*, *Ecology Letters, Ecology* (reviewer and *ad hoc* Assigning Editor)*, Nature Communications, Journal of Applied Ecology, Conservation Biology* (reviewer and *ad hoc* Assigning Editor)*, Current Biology, Annals of Botany, Functional Ecology, Conservation Letters, Oecologia, Landscape Ecology, Biology Letters, Biological Journal of the Linnean Society, Behavioral Ecology, Restoration Ecology, Biological Conservation, Journal of the Kansas Entomological Society, Journal of Insect Conservation, Ecological Entomology, Basic and Applied Ecology, Natural Areas Journal, Biological Reviews*

State of New Jersey

2020 Collaborated with New Jersey Department of Environmental Protection to complete NatureServe conservation assessments for 250 bee species

2019 Testified for New Jersey Senate on a bill restricting use of neonicotinoid pesticides

Internal - Rutgers University

2026 Graduate Program Director, Ecology & Evolution Graduate Program
Junior faculty mentoring, Myla Aronson, Dept Ecology, Evolution, & Natural Resources
Junior faculty mentoring, Jeremy Cohen, Dept Ecology, Evolution, & Natural Resources

2025 Graduate Program Director, Ecology & Evolution Graduate Program
Junior faculty mentoring, Myla Aronson, Dept Ecology, Evolution, & Natural Resources

2024 Graduate Program Director, Ecology & Evolution Graduate Program
Junior faculty mentoring, Myla Aronson, Dept Ecology, Evolution, & Natural Resources

2023 Graduate Program Director, Ecology & Evolution Graduate Program
Junior faculty mentoring, Myla Aronson, Dept Ecology, Evolution, & Natural Resources

2022 Chair, graduate student admissions committee, Ecology & Evolution Graduate Program
Executive committee, Graduate Program in Ecology & Evolution

2021 Admissions committee, Graduate Program in Ecology & Evolution
Executive committee, Graduate Program in Ecology & Evolution

2020 Covid return to research committee, Dept of Ecology, Evolution, and Natural Resources
Executive committee, Graduate Program in Ecology & Evolution

2019 SEBS Appointments & Promotions Committee (aka Tenure Committee)
Executive committee, Graduate Program in Ecology & Evolution

2018 SEBS Appointments & Promotions Committee (aka Tenure Committee)

Executive committee, Graduate Program in Ecology & Evolution

2017 SEBS Appointments & Promotions Committee (aka Tenure Committee)
Job search committee, Assistant Professor in Theoretical/Quantitative Ecology
Executive committee, Graduate Program in Ecology & Evolution

2016 Executive committee, Graduate Program in Ecology & Evolution
Job search committee, Assistant Professor in Theoretical/Quantitative Ecology
Junior faculty mentoring committee, Brooke Maslo, Ecology & Evolution
Junior faculty mentoring committee, Malin Pinsky, Ecology & Evolution

2015 Executive committee, Graduate Program in Ecology & Evolution
Junior faculty mentoring committee, Malin Pinsky, Ecology & Evolution

2014 Admissions committee, Graduate Program in Ecology & Evolution
Area committee, Graduate school curriculum committee
Executive committee, Graduate Program in Ecology & Evolution
Junior faculty mentoring committee, Anne Nielson, Entomology
Junior faculty mentoring committee, Malin Pinsky, Ecology & Evolution
Tenure committee, Siobain Duffy, Ecology & Evolution

2013 Admissions committee, Graduate Program in Ecology & Evolution
Area committee (Graduate school curriculum committee)
Executive committee, Graduate Program in Ecology & Evolution
Junior faculty mentoring committee, Malin Pinsky, Ecology & Evolution

2012 Admissions committee, Graduate Program in Ecology & Evolution
Executive committee, Graduate Program in Ecology & Evolution

2011 Executive committee, Graduate Program in Ecology & Evolution

2010 Chair, Graduate student admissions committee, Entomology Graduate Program
Executive committee, Graduate Program in Ecology & Evolution

2009 Graduate student admissions committee, Entomology Graduate Program