

# CURRICULUM VITAE

Short Form

August 31, 2025

Peggy S. M. Hill: Professor Emerita  
Department of Biological Science  
The University of Tulsa

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Tulsa, Oklahoma 74104

Home: 300 S. Bluff  
Catoosa, Oklahoma 74015

E-mail: peggy-hill@utulsa.edu

Birthdate: 6 November 1948; Coweta, Oklahoma

Education: The University of Tulsa, Tulsa, OK 74104  
Degree: Bachelor of Science in Education with honors, 1975  
Major: Life Sciences

Degree: Master of Science in Natural Science, 1977

Major: Biology

Thesis: A study of interspecific hybridization in a natural oak population with particular regard to introgression (Mentor: Dr. Paul Buck)

The University of Oklahoma, Norman, OK 73019

Degree: Doctor of Philosophy, 1996

Major: Zoology

Dissertation: Reproductive ecology of *Gryllotalpa major* (prairie mole cricket) (Mentor: Dr. Victor H. Hutchison)

Employment: 2019-present, Joe Deere Consulting, LLC, Catoosa, OK  
2018-present Professor Emerita, Biological Science, The University of Tulsa, OK  
2010-2018 Professor, Faculty of Biological Science, The University of Tulsa, OK  
2002-2010, Associate Professor, Faculty of Biological Science, The University of Tulsa, OK  
1996-2002, Assistant Professor, Faculty of Biological Science, The University of Tulsa, OK  
1987-1996, Instructor of Biological Science, Faculty of Biological Science, The University of Tulsa, Tulsa, OK  
1982-1987, Adjunct Instructor of Biological Science, Faculty of Biological Science, The University of Tulsa, Tulsa, OK  
1978-1987, Secondary Teacher, Booker T. Washington High School, Tulsa Public Schools, Tulsa, OK  
1975-1977, Graduate Teaching Fellow, Faculty of Biological Science, The University of Tulsa, Tulsa, OK  
1967-1973, Tulsa City-County Library System, Tulsa, OK  
1969-1970, Leake Television, Muskogee, OK

Professional Affiliations: Sigma Xi, Animal Behavior Society, International Society of Behavioral Ecologists, Society for Integrative and Comparative Biology (formerly Am Soc Zool), Society for Conservation Biology, Kansas (Central States) Entomological Society, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), The Orthopterists' Society

Publications in Refereed Journals (18 that represent range of research fields and are in order by publication date; #=undergraduate co-author; \*=graduate student co-author):

- Hill, Peggy Sue Morrison and Paul Buck. 1980. Interspecific hybridization in a natural oak population with particular regard to introgression. *Proceedings of the Oklahoma Academy of Science*, 60:48-53.
- Hill, P.S.M. and J.R. Shadley. 1997. Substrate vibration as a component of a calling song. *Naturwissenschaften*, 84:460-463.
- Hill, Peggy S. M. 1998. Environmental and social influences on calling effort in the prairie mole cricket (*Gryllotalpa major*). *Behavioral Ecology*, 9:101-108.
- Hill, Peggy S.M. 1999. Lekking in *Gryllotalpa major*, the prairie mole cricket (Insecta: Gryllotalpidae). *Ethology*, 105:531-545.
- Hill, Peggy S.M. and John R. Shadley. 2001. Talking back: sending soil vibration signals to lekking prairie mole cricket males. *American Zoologist*, 41:1200-1214.
- Howard, Daniel R.\* and Peggy S. M. Hill. 2007. The effect of fire on spatial distributions of male mating aggregations in *Gryllotalpa major* Saussure (Orthoptera: Gryllotalpidae) at the Nature Conservancy's Tallgrass Prairie Preserve in Oklahoma: Evidence of a fire-dependent species. *Journal of the Kansas Entomological Society*, 80:51-64.
- Howard, Daniel R.\* and Peggy S. M. Hill. 2009. Grassland botanical structure influences lek spatial organization in *Gryllotalpa major* Saussure (Orthoptera: Gryllotalpidae). *American Midland Naturalist*, 161:206-218.
- Hill, Peggy S. M. 2009 How do animals use substrate-borne vibrations as an information source? (Invited review) *Naturwissenschaften*, 96:1355–1371.
- Hill, Peggy S. M., Jordan P. H. H. Deere#, Jennifer Fancher#, Daniel R. Howard\* and J. Bryan Tapp. 2009. Burrow aggregation of prairie mole cricket (*Gryllotalpa major* Saussure: Orthoptera: Gryllotalpidae) males is not based on soil microhabitat constraints at lek sites in Oklahoma. *Journal of the Kansas Entomological Society*, 82:122-124.
- Hill, Peggy S.M. and Andreas Wessel. 2016. PRIMER: Biotremology. *Current Biology*, 26(5), R187-R191.
- Keane, Kit T.\*, Peggy S. M. Hill, and Warren Booth. 2016. The kin selection hypothesis in a lekking mole cricket: assessing nested patterns of relatedness. *Biological Journal of the Linnean Society* 118(2): 382-393.
- Golden, Timothy M. J.\* and Peggy S. M. Hill. 2016. The evolution of stridulatory communication in ants, revisited. *Insectes Sociaux* 63(2): 309-319.
- Keane, Kit T.\*, Booth, Warren, Howard, Daniel R., Golden, Timothy M. J.\*, and Hill, Peggy S. M. 2018. Competition decreases with relatedness and lek size in mole crickets: A role for kin selection? *Behavioral Ecology* 29(5): 1067-1074. <https://doi.org/10.1093/beheco/ary081>
- Hill, P.S.M. 2019. DISPATCH: Biotremology: We fight for food. *Current Biology* 29: R209-212.

Hill, P.S.M. and Andreas Wessel. 2021. DISPATCH: Biotremology: Have a look and find something wonderful! *Current Biology* 31: R1053-R1055

Mazzoni, V., Anfora, G. Cocroft, R.B., Fatouros, N.E., Groot, A.T., Gross, J., Hill, P.S.M., Hoch, H., Ioriatti, C., Nieri, R., Pekas, A., Stacconi, M.V.R., Steinbauer, M.J., Stelinski, L.L., Takanashi, T., Virant-Doberlet, M., Wessel, A. 2024. Bridging biotremology and chemical ecology: A new terminology. *Trends in Plant Science*. 29(8): 848-855. \*16 authors from 8 countries on 4 continents were listed by alphabetical order after the project director

Hill, Peggy S.M. 2025. Q&A: Peggy Hill. *Current Biology* 35: R361-376.

Hill, Peggy S.M. 2025. DISPATCH: Biotremology: Spider webs are not just a lazy way to capture prey. *Current Biology* 35: R422-423.

#### Books and Book Chapters:

Hill, Peggy S. M. 2008. *Vibrational Communication in Animals*. Cambridge, Harvard University Press.

Hill, Peggy S. M. 2010. Introduction. In: *The Use of Vibrations in Communication: Properties, mechanisms and function across taxa*. C. E. O'Connell-Rodwell (ed). pp. 1-8. Kerala, India: Research Signpost. (ISBN: 978-81-7895-451-6)

Cocroft, R., Gogala, M., Hill, P. S.M and Wessels, A. 2014. Fostering research progress in a rapidly growing field. Chapter 1, in: Cocroft, R., Gogala, M., Hill, P. S.M and Wessels, A., eds. *Studying Vibrational Communication*. Volume 3, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Berlin: Springer.

Hill, Peggy S. M. 2014. Stretching the paradigm or building a new? Development of a cohesive language for vibrational communication. Chapter 2, in: Cocroft, R., Gogala, M., Hill, P. S.M and Wessels, A., eds. *Studying Vibrational Communication*. Volume 3, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Berlin: Springer.

Cocroft, R., Gogala, M., Hill, P. S.M., and Wessels, A. (eds.). 2014. *Studying Vibrational Communication*. Volume 3, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Berlin: Springer.

Hill, P. S.M., Lakes-Harlan, R., Mazzoni, V., Narins, P., Virant-Doberlet, M. and Wessel, A., eds. 2019. *Biotremology: Studying Vibrational Behavior*. Volume 6, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Cham: Springer Nature Switzerland.

Hill, P. S.M., Mazzoni, V., Narins, P., Virant-Doberlet, M. and Wessel, A. 2019. Quo Vadis, Biotremology? Chapter 1, in: Hill, P. S.M., Lakes-Harlan, R., Mazzoni, V., Narins, P., Virant-Doberlet, M. and Wessel, A., eds. *Biotremology: Studying Vibrational Behavior*. Volume 6, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Cham: Springer Nature Switzerland.

Hill, P. S.M., M. Virant-Doberlet and Wessel, A. 2019. What is Biotremology? Chapter 2, in: Hill, P. S.M., Lakes-Harlan, R., Mazzoni, V., Narins, P., Virant-Doberlet, M. and Wessel, A., eds. *Biotremology: Studying Vibrational Behavior*. Volume 6, in: Janik, E.M. and

McGregor, P, eds. *Animal Signals and Communication* (series). Cham: Springer Nature Switzerland.

Hill, P. S.M., Mazzoni, V., Strith Peljhan, N., Virant-Doberlet, M. and Wessel, A., eds. 2022. *Biotremology: Physiology, Ecology and Evolution*. Volume 8, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Cham: Springer Nature Switzerland.

Hill, P. S.M., Mazzoni, V., Strith Peljhan, N., Virant-Doberlet, M. and Wessel, A. 2022. Quo Vadis, Biotremology? Chapter 1, in: Hill, P. S.M., Mazzoni, V., Strith Peljhan, N., Virant-Doberlet, M. and Wessel, A., eds. *Biotremology: Physiology, Ecology and Evolution*. Volume 8, in: Janik, E.M. and McGregor, P, eds. *Animal Signals and Communication* (series). Cham: Springer Nature Switzerland, pp 3-19.

Dunlop, R., Gannon, W.L., Kiley-Worthington, M., Hill, P.S.M., Wessel, A. and Thomas, J.A. 2022. Vibrational and acoustic communication in animals. Chapter 11, in: Erbe, C. and Thomas, J.A., eds. *Exploring Animal Behavior Through Sound – Vol 1: Methods*. Cham: Springer Nature Switzerland, pp 389-417.

Professional Presentations (111 total, through June 2017)

Proposals Funded (most related to field work):

Wells, Harrington, Peggy S. Hill and Patrick H. Wells. Pollinator intraspecific alternate foraging behavior. 1991. Center for Field Biology, Austin Peay State University, Tennessee. Senior Research Fellowship. \$6,000.

Native American Studies Certificate Program, University of Tulsa, College of Arts and Sciences. Approved, Spring 1991

Hill, Peggy S. Baseline study and development of monitoring plan for the prairie mole cricket (*Gryllotalpa major*). 1993. The Nature Conservancy, Katharine Ordway Stewardship Grant. \$2,550.

Hill, Peggy S. Reproductive ecology of the prairie mole cricket (*Gryllotalpa major*): Basic research on a Category 2 species. 1994. The Nature Conservancy. Tulsa Field Office Grant. \$1,500.

Hill, Peggy S. Success with Species at Risk: the prairie mole cricket (*Gryllotalpa major* Saussure). 1994-95. U.S. Department of the Interior. National Biological Survey. Success with Species at Risk Initiative. \$17,816.

Hill, Peggy S. M. Vibration as a communication channel: a symposium. 2000. National Science Foundation, submitted through the Society for Integrative and Comparative Biology. \$8,875 (plus \$19,975 in cost-sharing from SICB).

Wells, Harrington and Peggy S. M. Hill. UMEB: Environmental Biology at the University of Tulsa. National Science Foundation. IBN0203269, 9-1-02 to 8-31-06. \$566,074. (Extended to 8-31-07)

Howard, Daniel R., Peggy S. M. Hill and Carrie L. Howard. 2019-2020. Remote acoustic biomonitoring and habit modeling to establish current range and critical habitat of the prairie mole cricket in Oklahoma. Oklahoma Department of Wildlife Conservation,

Oklahoma Comprehensive Wildlife Conservation Plan Implementation. State Wildlife Grants. One year extension granted due to disruption of Covid-19 pandemic, with ending date 30 June 2021.

#### Courses Taught, University of Tulsa:

##### Core Courses:

Plants and Society/Plants and Civilization (Biol 1013)  
 Environment and Humanity (Biol 1033)  
 Biology: A Way of Knowing (Biol 1043)  
 First Seminar: Keepers of the Earth: Conservation Philosophies Past and Present (FS1973)  
 Junior Research and Colloquium (Hon 3003)  
 Organismic Biology (Biol 1064)  
 Biological Diversity (Biol 1604)  
 Environmental Biology (Biol 2073)

##### Biology Electives (course numbers when last taught):

Ecology (Biol 2013)  
 Evolution (Biol 3143)  
 Animal Behavior (Biol 4153/6153)  
 Environmental Ethics and Conservation (Biol 4213/6213)  
 Special Topics in Biological Science: Ecology (Biol 4383/6383)  
 Special Topics in Biological Science: Physiological Ecology (Biol 4383/6383)  
 Special Topics in Invertebrate Zoology (Biol 4603/6603)

#### Technical Consulting:

Williams Natural Gas Company - Prairie mole cricket habitat survey  
 Mintech, Inc. -  
     McNabb Coal Company - Prairie mole cricket habitat survey  
     P&K Company, Ltd. - Coal mine reclamation project vegetational survey  
 Tulsa Aquarium Project - Endangered plants survey  
 Joe Deere Consulting  
     1) Reconnaissance Non-Archaeological Historic Resources Survey of the Drummond Flats Wetland Landscape, Drummond, Garfield County, Oklahoma: Prepared by Bobi Deere, Peggy Hill, Joe Deere, for the Oklahoma Department of Wildlife Conservation, Canton, Ok  
     2) Archaeological Report for Ida and Jane Blue Hawk Allotments Project, Pawnee County, Oklahoma: Peggy S. Hill surveyed May 9-12, 2022 and Prepared Report, June 10, 2022  
     3) Archaeological Survey of Kester's and Crazy Horse Property, Pawnee County, Oklahoma: Peggy S. Hill Prepared Report, March 30, 2024  
     4) Contributions:  
         Jane Cory/Pawnee Project 2022 – Historical research and editing  
         Sac and Fox Mission School Project 2022 – Research on oak trees  
         Lena Otter Project 2023 – Historical research  
         Effie Blaine Project 2023 – Limited woody vegetation survey  
         Albert Pappan Survey Project 2023 – Research on berms

#### Civic Activities:

Red Bud Valley Nature Preserve Guide, 1976-1990  
 Girl Scouts of the USA, 1974-1990, 2023- (Troop Leader, Leadership Consultant, Day Camp Director, Secretary of the Alumni and Friends, etc., Troop Committee)  
 Tulsa Hale High School Research Class - Guest Speaker/Science Fair Judge, 1991-1992  
 Tulsa Will Rogers Hill School, Earth Day Speaker, 1995  
 Chouteau Elementary School, Visiting Scientist, 2001-2002  
 Holland Hall School Ecology Club - Guest Speaker/Consultant, 1991

8th Grade Science Curriculum, Consultant, 2001-2002  
 Animal Behavior class, Presenter, 2008  
 Boy Scouts of America  
 Troop 81 Badge Consultant, 2003-2013  
 Eagle (and other rank advancements) Board of Review Member, 2004-2013  
 Oklahoma Centennial Botanical Gardens, Presenter, 2007  
 Oklahomans for Excellence in Science Education, Board of Governors

Peer reviewer, journals: *Agricultural and Forest Entomology*, *American Zoologist*, *Animal Behaviour*, *Animal Behavior and Cognition*, *Animal Cognition*, *Animals*, *Arthropod Structure and Development*, *Behavioral Ecology*, *Behavioral Ecology and Sociobiology*, *Behavioural Processes*, *Bioacoustics*, *Biological Journal of the Linnean Society*, *Biology*, *Canadian Journal of Zoology*, *Cell Biology*, *Communication Biology*, *Comparative Biochemistry and Physiology-A*, *Current Biology*, *Current Opinions in Insect Science*, *Ecological Modelling*, *Ecology and Evolution*, *Entomological News*, *Environmental Entomology*, *Ethology*, *Ethology, Ecology & Evolution*, *Florida Entomologist*, *Functional Ecology*, *Insect Science*, *Insectes Sociaux*, *The International Journal of Tropical Biology and Conservation: Revista de Biología Tropical*, *Invertebrate Biology*, *Journal of Arachnology*, *Journal of Comparative Neurology*, *The Journal of Experimental Biology*, *Journal of Insect Behavior*, *Journal of Insect Physiology*, *Journal of Insect Science*, *Journal of Pest Science*, *Journal of the Acoustical Society of America*, *Journal of the Kansas Entomological Society*, *Journal of the Royal Society Interface*, *Molecular Ecology*, *North-Western Journal of Zoology*, *Oecologia*, *Oikos*, *Pest Management Science*, *Phyllomedusa*, *Physiological Entomology*, *PLoS ONE*, *Royal Society Open Science*, *Science of the Total Environment*, *The Science of Nature (Naturwissenschaften)*, *Tijdschrift voor Entomologie*, *Trends in Plant Science*, *Zoologica Scripta*

Peer reviewer, book and/or book prospectus: McGraw-Hill, Oxford University Press, Elsevier, University of Chicago Press

Interviews: *Slate.com*, *The Boston Globe*, *ScienceNow*, KWGS Radio, *Science News*, *New York Times*, The Shed (New York City)