

CURRICULUM VITAE: NOAH TODD ASHLEY
formerly Noah Todd Owen-Ashley

ADDRESS:

Department of Biology
Western Kentucky University
1906 College Heights Blvd #11080
Bowling Green, KY 42101-1080
E-mail: noah.ashley@wku.edu

EDUCATION:

University of Washington. Ph. D. (Zoology) 2004
Advisor: John C. Wingfield
Dissertation Title: Environmental Regulation of Immune-Endocrine
Phenomena in Songbirds

Colby College, Waterville, ME. Bachelor of Arts, Biology 1997
Summa cum laude

EMPLOYMENT:

Associate Professor, Dept. of Biology 2018-present
Western Kentucky University

Assistant Professor, Dept. of Biology 2012-2018
Western Kentucky University

Postdoctoral Researcher, Dept. of Neuroscience 2011-2012
The Ohio State University College of Medicine
Advisor: Dr. Randy Nelson

Affiliate Assistant Professor, Dept. of Biological Sciences 2009-2010
University of Alaska, Anchorage

National Science Foundation Postdoctoral Fellow 2009-2010
University of Alaska, Anchorage & Univ. of California, Berkeley
Advisors: Dr. Loren Buck and Dr. George Bentley

Wildlife Biologist, Department of Wildlife Management, North Slope Borough 2006- 2008
* Staff Biologist examining impacts of oil field development on ecology
and physiology of arctic-breeding birds and mammals

Research Assistant, Department of Zoology, University of Washington 1999-2004
• Developed and conducted experiments involving avian ecology
and physiology (see Research Experience below).

Teaching Assistant, Department of Zoology, University of Washington	1998-2002
• Instructed undergraduate-level biology courses (See teaching experience)	
Field Assistant, Archbold Biological Research Station, Florida	1997
Research Assistant, Smithsonian, Washington, D. C.	1996
Teaching Assistant, Colby College, Waterville, Maine	1994-1997

FELLOWSHIPS AND GRANTS (WKU total- \$1,663,262; Career total- \$2,393,436)

Extramural grants since joining WKU

KBRIN Bridge Grant (\$70,705)	2020-2021
NIH R15 (NIGMS; \$400,803)	2016-2020
NSF IOS (\$964,048)	2016-2021
NIH/KBRIN Postdoctoral Support Grant (\$106,500)	2016-2019
RCAP I Award (internal grant, WKU; \$11,269)	2015
KBRIN-IDeA Award (\$138,600)	2013-2015
RCAP I Award (internal grant; WKU; \$15,000)	2013
KBRIN start-up award (\$25,000)	2012

Previous funding

NSF Polar Programs Postdoctoral Fellowship (\$140,000)	2009-2010
National Petroleum Reserve-Alaska Impact Grant (Co-PI; \$323,000)	2007-2009
International Behavioral Ecology Travel Award (\$1000)	2004
NSF Dissertation Improvement Grant (\$9,388)	2003-2005
SICB Division of Comparative Endocrinology Travel Award (\$400)	2003
Marcia Brady Tucker Travel Award (\$600)	2002
American Ornithologists' Union (AOU) Research Grant (\$1,780)	2002
Society of Integrative and Comparative Biology (SICB) Research Grant (\$1000)	2001
Sigma-Xi (\$800)	2001
NSF Predoctoral Fellowship (\$60,000)	1999-2001

HONORS AND AWARDS:

Ogden College of Science and Engineering Research Award, WKU	2018
One Million Dollar Grant Club, WKU	2017
Ogden College of Science and Engineering Junior Research Award, WKU	2016
Lancaster Professor, WKU	2015
Junior Investigator Award, WKU	2015
Chair, Zoology Division, Kentucky Academy of Sciences	2014
Junior Investigator Award, WKU	2014
Certificate of Excellence in Reviewing, General & Comparative Endocrinology	2013
North Slope Science Initiative, Appointed Staff Member	2007-2008
Aubrey Gorbman Award, Best Student Presentation, Society for Integrative and Comparative Biology	2004
Richard Snyder Vertebrate Zoology Award, University of Washington	1999
Biology Senior of the Year, Colby College	1997
Charles A. Dana Award, Colby College	1996
Julius Seelye Bixler Award, Colby College	1995

PUBLICATIONS (* indicates undergraduate student authorship, † indicates graduate student authorship) (17 since @ WKU position, Google Scholar citations = 1,695, H index = 17)

- (30) Hodinka, B. L.†, **Ashley, N. T.** 2020. Effect of sleep loss on executive function and plasma corticosterone levels in an arctic-breeding songbird, the Lapland longspur (*Calcarius lapponicus*). Hormones and Behavior 122:104764
- (29) Mishra, I., Pullum, K.B*., Thayer, D. C.*, Plummer, E. R.*, Conkright, B. W.*, Morris, A. J., O'Hara, B. F., Demas, G. E., Ashley, N. T. 2020. Chemical sympathectomy reduces peripheral inflammatory responses to acute and chronic sleep fragmentation. American Journal of Physiology- Regulatory, Integrative and Comparative Physiology 318:R781-R789.
- (28) Mishra, I., Knerr, R.M*., Stewart, A.A.*, Payette, W.I.†, Richter, M.M., **Ashley, N. T.** 2019. Light at night disrupts diel patterns of cytokine gene expression and endocrine profiles in zebra finch (*Taeniopygia guttata*). Scientific Reports 9(1):15833. doi: 10.1038/s41598-019-51791-9.
- (27) Scalf, C. S.†, Chariker, J. H., Rouchka, E. C., **Ashley, N. T.** 2019. Transcriptomic analysis of immune response to bacterial lipopolysaccharide in zebra finch (*Taeniopygia guttata*). BMC Genomics 20:647.
- (26) Cooper, L. N.†, Mishra, I., **Ashley, N.T.** 2019. Short-Term Sleep Loss Alters Cytokine Gene Expression in Brain and Peripheral Tissues and Increases Plasma Corticosterone of Zebra Finch (*Taeniopygia guttata*). Physiological and Biochemical Zoology 92:80-91.
- (25) Villeneuve, D.L., Landesmann, B., Allovena, P., **Ashley, N.**, Bal-Price, A., Corsini, E., Halappanavar, S., Hussell, T., Laskin, D., Lawrence, T., Nikolic-Patterson, D., Pallardy, M., Pains, A., Pieters, R., Roth, R., Tschudi-Monnet, F. 2018. Representing the Process of Inflammation as Key Events in Adverse Outcome Pathways. Toxicological Sciences 163:346-352.
- (24) Dumaine J.E.†, **Ashley N.T.** (2018) Acute sleep fragmentation does not alter pro-inflammatory cytokine gene expression in brain or peripheral tissues of leptin-deficient mice. PeerJ 6:e4423 <https://doi.org/10.7717/peerj.4423>
- (23) **Ashley, N. T.** and Demas, G. E. 2017. Neuroendocrine-immune circuits, phenotypes, and interactions. Hormones and Behavior 87:25-34.
- (22) Demas, G. E. and **Ashley, N. T.** 2017. Introduction to the Special Issue on Neuroendocrine-immune Interactions: Implications for Integrative and Comparative Physiologists. Hormones and Behavior 88:1-3.

- (21) **Ashley, N.T.**, Brown, A. C*., Sams, D.W.*, and Dumaine, J. E†. 2016. Novel environment influences the effect of paradoxical sleep deprivation upon brain and peripheral cytokine gene expression. Neuroscience Letters 615:55-59.
- (20) Dumaine, J. E.†, and **Ashley, N. T.** 2015. Acute sleep fragmentation induces tissue-specific changes in cytokine gene expression and increases serum corticosterone concentration. American Journal of Physiology: Regulatory, Integrative and Comparative Physiology 308:R1602-9.
- (19) **Ashley, N. T.**, Ubuka, T., Schwabl, I. Goymann, W., Salli, B. *, Bentley, G. E., and Buck, C. L. 2014. Revealing a circadian clock in captive arctic-breeding songbirds, Lapland longspurs (*Calcarius lapponicus*), under constant illumination. Journal of Biological Rhythms 29:456-69.
- (18) **Ashley, N. T.**, Walton, J. C. †, Haim, A. †, Zhang, N., Prince, L. A.*, Fruchey, A. M.*, Lieberman, R. A.*, Weil, Z. M., Magalang, U. J., Nelson, R. J. 2013. Sleep deprivation attenuates cytokine gene expression independent of photoperiod and circulating cortisol in endotoxin-challenged male Siberian hamsters. Journal of Experimental Biology 216:2581-6.
- (17) **Ashley, N. T.**, Schwabl, I., Goymann, W., and Buck, C. L. 2013. Keeping time under the midnight sun: behavioral and melatonin profiles of free-living Lapland Longspurs (*Calcarius lapponicus*) during the Arctic summer. Journal of Experimental Zoology Part A. 319:10-12.
- (16) **Ashley, N. T.**, Weil, Z. M., and Nelson, R. J. 2012. Inflammation: mechanisms, costs, and natural variation. Annual Review of Ecology, Evolution, and Systematics. 43:385-406.
- (15) **Ashley, N. T.**, Zhang, N., Weil, Z. M., Magalang, U., Nelson, R. J. 2012. Photoperiod alters the duration and intensity of non-REM sleep following immune challenge in Siberian hamsters (*Phodopus sungorus*). Chronobiology International. 29:683-692.
- (14) **Ashley, N. T.** and J. C. Wingfield. 2012. Sickness Behavior in Vertebrates: Allostasis, Life History Modulation, and Hormonal Regulation. In: G. E. Demas and R. J. Nelson, eds. EcoImmunology. Pp. 45-91. Oxford University Press.
- (13) **Ashley, N.T.**, Barboza, P. S., Macbeth, B. J., Janz, D. M., Cattet, M. R. L., Booth, R. K., Wasser, S. K. 2011. Glucocorticosteroid concentrations in feces and hair of captive caribou and reindeer following adrenocorticotrophic hormone challenge. General and Comparative Endocrinology 172:382-391.
- (12) **Ashley, N.T.**, Hays, Q. R*., Bentley, G. E., and J. C. Wingfield. 2009. Testosterone treatment diminishes sickness behavior in male songbirds. Hormones and Behavior 56:169-176.

- (11) **Owen-Ashley, N. T.**, D. Hasselquist, L. Raberg†, and J. C. Wingfield. 2008. Latitudinal variation of immune defense and sickness behavior in the White-crowned Sparrow (*Zonotrichia leucophrys*). Brain Behavior and Immunity 22:614-625.
- (10) **Owen-Ashley, N. T.** and J. C. Wingfield. 2007. Acute phase responses of passerines: characterization and seasonal variation. Journal of Ornithology 148 (Suppl 2):S583-S591
- (9) **Owen-Ashley, N. T.** and J. C. Wingfield. 2006. Seasonal modulation of sickness behavior in free-living song sparrows (*Melospiza melodia morphna*). Journal of Experimental Biology 209:3062-3070.
- (8) **Owen-Ashley, N. T.**, M. Turner*, T. P. Hahn, and J. C. Wingfield. 2006. Hormonal, behavioral, and thermoregulatory responses to bacterial lipopolysaccharide in captive and free-living Gambel's White-crowned Sparrow (*Zonotrichia leucophrys gambelii*). Hormones and Behavior 49:15-29.
- (7) **Owen-Ashley, N. T.** and L. K. Butler (Authors contributed equally). 2004. Androgens, interspecific competition and species replacement in hybridizing warblers. Proceedings of the Royal Society of London. Series B. 271:S498-S500.
- (6) **Owen-Ashley, N. T.**, Hasselquist, D., and J. C. Wingfield. 2004. Androgens and the immunocompetence handicap hypothesis: unraveling direct and indirect pathways of immunosuppression in song sparrows. American Naturalist 490-505.
- (5) Wingfield, J. C, **N.T. Owen-Ashley**, Z.M. Benowitz-Fredericks, S.E. Lynn, T. P. Hahn, H. Wada, C. Breuner, S. L. Meddle, and L.M Romero. 2004. Arctic spring: the arrival biology of migrant birds. Acta Zoologica Sinica 50:948-960.
- (4) Meddle, S. L., **N. T. Owen-Ashley**, M. I. Richardson, and J. C. Wingfield. 2003. Modulation of the hypothalamic-pituitary-adrenal axis in the polygynandrous Smith's Longspur (*Calcarius pictus*). Proceedings of the Royal Society of London. Series B 270:849-1856.
- (3) Breuner, C. W., M. Orchink, T. P. Hahn, S. L. Meddle, I. T. Moore, **N. T. Owen-Ashley**, T. S. Sperry, and J. C. Wingfield. 2003. Mechanisms for plasticity of the stress response in three subspecies of white-crowned sparrow. American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology 285:R594-R600.
- (2) **Owen-Ashley, N. T.**, S. J. Schoech, and R. L. Mumme. 2002. Context-specific response of Florida Scrub-Jay pairs to Northern Mockingbird vocal mimicry. Condor 104:858-865.
- (1) **Owen-Ashley, N. T.** and Wilson, D. E. 1998. *Micropteropus pusillus*. Peter's Dwarf Epauletted Fruit Bat. Mammalian Species. No. 577:1-5.

PRESS COVERAGE:

Owen-Ashley, N. T. and J. C. Wingfield. 2006. Seasonal modulation of sickness behavior in free-living song sparrows (*Melospiza melodia morphna*). J. Exp. Biol. 209:3062-3070.

Science magazine: <http://sciencenow.sciencemag.org/cgi/content/full/2006/804/2>

Owen-Ashley, N. T. and L. K. Butler. 2004. Androgens, interspecific competition and species replacement in hybridizing warblers. Proc. R. Soc. Lond. B. S498-500.s

Reuters: <http://www.reuters.com/newsArticle.jhtml?type=topNews&storyID=6067047>

Los Angeles Times: <http://www.latimes.com/news/nationworld/nation/la-sci-briefs28.4aug28,1,5029276.story>

Newswise: <http://www.newswise.com/articles/view/506700/>

MSNBC: <http://www.msnbc.msn.com/id/5809902/>

Environmental News Network (ENN): http://www.enn.com/news/2004-08-25/s_26687.asp

Ashley, N. T., Schwabl, I., Goymann, W., and Buck, C. L. 2013. Keeping time under the midnight sun: behavioral and melatonin profiles of free-living Lapland Longspurs (*Calcarius lapponicus*) during the Arctic summer. Journal of Experimental Zoology Part A. 319:10-12.

Dugdug: <http://www.dugdug.com/dr-noah-ashley-discusses-timekeeping-in-the-arctic>

Commentary on Circadian Rhythms in Birds (July 2013):

National Geographic: <http://news.nationalgeographic.com/news/2013/06/130618-circadian-rhythm-arctic-bird-migrating-science/>

PUBLISHED ABSTRACTS

Owen-Ashley, N. T., L. K. Butler, S. Rohwer, and J. C. Wingfield. 2002. The role of testosterone in a moving avian hybrid zone. Annual Meeting of the Society for Integrative and Comparative Biology, Anaheim, California, USA, January 02-06, 2002

Owen-Ashley, N. T., Q. Hays*, G. E Bentley, and J. C. Wingfield. 2003. Testosterone reduces sickness behavior in songbirds. Annual Meeting and Exhibition of the SICB (Society for Integrative and Comparative Biology), Toronto, ON, Canada, January 04-08, 2003

Owen-Ashley, N. T., D. Hasselquist, and J. C. Wingfield. 2003. Indirect mechanisms of testosterone-induced immunosuppression in songbirds: A new paradigm. Annual Meeting and Exhibition of the SICB (Society for Integrative and Comparative Biology), Toronto, ON, Canada, January 04-08, 2003

Owen-Ashley, N. T., M. Turner*, T. P. Hahn, and J. C. Wingfield. 2004. Hormonal, behavioral, and thermoregulatory consequences of lipopolysaccharide-induced sickness in the White-crowned Sparrow (*Zonotrichia leucophrys gambelii*). Annual Meeting and Exhibition of the SICB (Society for Integrative and Comparative Biology), New Orleans,

LA, USA, January 05-09, 2004.

Owen-Ashley, N. T., and J. C. Wingfield. 2004. Seasonal differences in expression of sickness behavior after experimental 'pseudoinfection' in free-living song sparrows (*Melospiza melodia morphna*). Annual Meeting and Exhibition of the SICB (Society for Integrative and Comparative Biology), New Orleans, LA, USA, January 05-09, 2004.

Owen-Ashley, N. T., D. Hasselquist, and J. C. Wingfield. 2005. Examining the indirect effects of testosterone-induced immunosuppression in songbirds. I.) Effects of corticosterone and estradiol on acquired immune function. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), San Diego, CA, January 4-8, 2005.

Owen-Ashley, N. T., D. Hasselquist, and J. C. Wingfield. 2005. Examining the indirect effects of testosterone-induced immunosuppression in songbirds. II.) Effect of pharmacological adrenalectomy on humoral immune responses in testosterone-implanted birds. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), San Diego, CA, January 4-8, 2005.

Salli, B.*, **Ashley, N. T.**, Buck, C. L. 2011. Effect of testosterone on the synchronization of activity rhythms to low amplitude zeitgebers in an arctic-breeding songbird. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology)

Ashley, N.T., Zhang, N., Weil, Z. M., Magalang, U. J., Nelson, R. J. 2013. Sleeping dwarfs: photoperiodic modulation of infection-induced sleep in Siberian hamsters (*Phodopus sungorus*). Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), San Francisco, CA, January 3-7th, 2013.

Brown, A.C.*, Sams, D. W.*, **Ashley, N. T.** 2013. Sleep deprivation increases cytokine gene expression and plasma corticosterone levels in a murine model: a possible link between stress and inflammation? Kentucky Academy of Sciences Annual Meeting, Morehead, KY, Nov. 8-9, 2013.

Ashley, N.T., and Wingfield, J. C. 2014. Testosterone at the Top of the World: Disparate hormone-behavior interrelationships between two high-arctic breeding populations of Lapland Longspurs (*Calcarius lapponicus*). Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), Austin, TX, January 3-7th, 2014.

Ashley, N.T., Hasselquist, D., and Wingfield, J. C. 2015. Testosterone and immunosuppression in an arctic-breeding songbird. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), West Palm Beach, FL, January 4-8th, 2015.

Cooper, L. N, and **Ashley, N. T.** 2016. Effects of sleep disruption upon cytokine gene expression of zebra finch (*Taenopygia guttata*). Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), Portland, OR, January 3-7th, 2016.

- Richter, M. M., **Ashley, N. T.**, and L. N. Cooper. 2017. A polar day's worth of stress- circadian variation of adrenocortical responses to stress in arctic-breeding passerine birds. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), New Orleans, LA, January 4-8th, 2017.
- Richter, M. M., **Ashley, N. T.** 2018. Making hay while the sun shines: How an arctic-breeding songbird copes with 24 hours of daylight. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), San Francisco, 3-7th, 2018.
- Hodinka, B. L., **Ashley, N. T.** 2019. Effect of sleep loss on cognitive function and baseline plasma corticosterone levels in an arctic-breeding songbird, the Lapland Longspur (*Calcarius lapponicus*). Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), Tampa, FL, 3-7th, 2019.
- Richter, M. M. Scalf, C. S., Pullum, K. B., Cooper, L. N., **Ashley, N. T.** 2019. Effect of polar daylight upon the adrenocortical response to stress in arctic-breeding passerine songbirds. Annual Meeting and Exhibition of the SICB (Society of Integrative and Comparative Biology), Tampa, FL, 3-7th, 2019.

INVITED SYMPOSIA AND PRESENTATIONS

- Owen-Ashley, N. T.** and Butler, L. K. 2004. Are endocrinological “rules of thumb” sufficient to explain the movement of a *Dendroica* warbler hybrid zone? E-bird ESF/NSF/NSERC workshop. Tradeoffs and constraints. Groningen, Netherlands.
- Owen-Ashley, N. T.** and J. C. Wingfield. 2006. Acute phase responses of passerines: characterization and life history modulation. International Ornithological Congress, Hamburg, Germany.
- Ashley, N.T.**, T., Ubuka, G. E. Bentley, and C. L. Buck. 2010. Circadian organization of arctic-breeding songbirds. International Ornithological Congress, Campus do Jordão, Brazil.
- Ashley, N.T.** 2011. Testosterone-induced immunosuppression in songbirds: trouble or triumph? North American Society for Comparative Endocrinology. University of Michigan, Ann Arbor, Michigan
- Ashley, N. T.** 2012. Endotoxemia and sleep: effects of day length. Ohio State University Medical Center Grand Rounds (Davis Heart and Lung Institute).
- Ashley, N. T.** 2015. The Vertebrate Inflammatory Response: Mediation by Life-History Tradeoffs. Departmental Seminar. Dept. of Biological Sciences, University of Alabama.
- Ashley, N. T.** 2015. The Vertebrate Inflammatory Response: Mediation by Life-History Tradeoffs. Departmental Seminar. Dept. of Biological Sciences, Northern Arizona University.
- Ashley, N. T.** Spring 2015. The Vertebrate Inflammatory Response: The Good, The Bad, And

the Ugly. Center for the Integrative Study of Animal Behavior. Indiana University, Bloomington, IN.

Ashley, N. T. Fall 2017. The Inflammatory Response in Vertebrates. The European Commission. Workshop “Inflammation and the AOP Framework.” Ispra, Italy (videoconference).

Ashley, N. T. Spring 2019. Inflammation in sick and healthy animals. University of Alaska, Fairbanks, AK.

UNDERGRADUATE STUDENT MENTORING (*Since starting at WKU: 26 undergraduate students that include 11 Gatton Academy students*):

Honor Thesis Students: Audrey Brown, Amber Bishop, Dominique Thayer, Erica Plummer, Molly Taylor, Zachary Wriedt

Independent Research Students: Abigail Price, Megan Rowe, Manzar Rzayeva, Edwin Fields, Darby Tassell, Kelsey Littrell, Kristen Eads, Madison Sturdivant, Kaelee Stafford, Sasha Sairajeev (Gatton); Zoe Ward (Gatton), Amanda Strunjas (Gatton), Reinhard Knerr (Gatton) Natalie Ngong (Gatton), Keelee Pullum (Gatton), Dylan Sexton, Olivia Gilliam (Gatton), Benjamin Conkright (Gatton), Nakeya Owens (Gatton) Chase Knibbe, Dai Le Hieu Vo, Johnny England, Jamie Doctrow, Austin Smith (Gatton) Austin Huff, David Sams, Ryne Armes, Kaley Coffey, Cameron Fields, Darby Tassell (Gatton)

GRADUATE STUDENT MENTORING *7 students chaired since joining WKU)*

Thesis Committee Chair

Jennie Dumaine*#- M. S. completed Spring 2015

Laken Cooper- M. S. completed Spring 2016

Cassandra Scalf- M.S. completed in Spring 2018

Brett Hodinka- M. S. completed in Spring 2019

Wes Payette- M.S. completed. in Spring 2020

Nick Wheeler- M. S. completed in Summer 2020

Hunter Weaver- M. S. expected to complete Spring 2022

External Committee Member for Ph.D. Dissertation

Elizabeth Carlton- Indiana University- defended Spring 2015

POSTDOCTORAL ASSOCIATES

Melanie Richter- Dr. Richter (Ph.D. from University of Alaska, Fairbanks) was hired in June 2016 to oversee the arctic field biology studies on sleep loss in songbirds.

Ila Mishra- Dr. Mishra (Ph.D. from University of Delhi, India) was hired in November, 2017 to supervise the NIH-related research on sleep fragmentation in mice.

David Ensminger- Dr. Ensminger (Ph.D. from Penn State) was hired in April, 2019 to assist with completing NIH-related research on sleep fragmentation in mice.

TEACHING EXPERIENCE

Full Courses

Vertebrate Endocrinology, Western Kentucky University (4)	2013-2019
Human Anatomy & Physiology, Western Kentucky University (4)	2012-2014
Ornithology, Western Kentucky University (3)	2015-2019
Ornithology Lab, Western Kentucky University (2)	2017, 2019
Animal Biology & Diversity, Western Kentucky University (4)	2016-2018

Teaching assistantships

Introductory Physiology, University of Washington	1998, 2002
Vertebrate Zoology, University of Washington	1999
Comparative Vertebrate Anatomy, University of Washington	1999, 2002

Guest Lectures

Immunology, Western Kentucky University	2014
Comparative Vertebrate Endocrinology, University of Washington	2000, 2001
Vertebrate Zoology, University of Washington	1999, 2000

Special Educational Programs

Future Teachers of Science Internship Program-

Developed with Dr. Martha Day (SkyTeach; WKU)-

Provides internships to WKU students to develop course modules in arctic science for middle school/high school students in Barrow, Alaska and southcentral KY

2016-2019

Gatton Academy-Barrow High School Research Experience

Students from the Gatton Academy and Barrow High School (Alaska) conduct summer research on arctic-breeding birds in Barrow, Alaska

2017-2019

SERVICE

University Service

Chair, WKU Institutional Animal Care and Use Committee (2015 to present)

Member, WKU Institutional Animal Care and Use Committee (2013-2015)

Departmental Service

Member, Selection Committee for new Biology Chair (Spring 2019)

Chair, Biology Awards Selection (Spring 2018)

Chair, Biology Departmental Seminar Committee (Fall 2015)

Member, Undergraduate Curriculum Committee (2015-2017)

Member, Advising Committee (2014-2015)

Member, Safety Committee (2013-2014)

Advisor, Pre-dental Society (2016-present)

Professional Service

Special Guest Editor (2015-2017)

Hormones and Behavior: Special Issue “Neuroendocrine-Immune Interactions: Implications for Integrative and Comparative Physiologists” Publication Date: published in early 2017. Co-edited with Dr. Gregory Demas (Indiana University).

Grant Reviewer

External

Dutch Research Council, *ad hoc review*, 2019

NSERC, *ad hoc review*, 2018

Department of Defense- Congressionally Directed Medical Research Programs, August-Sept. 2016, 2017

NSF IOS Pre-proposals (Modulation panel)- Washington, D. C. March, 2016

NSF IOS Modulation panel- October, 2020

Israeli Science Foundation, *ad hoc review*, 2012, 2013

NSF referee, IOS, *ad hoc review*, 2011, 2017

Internal

WKU FUSE grants, *ad hoc review*, 2013, 2014

Journal Reviewer (61 manuscripts reviewed since joining WKU; Total # = 111)

American Journal of Physiology: Regulatory, Integrative, and Comparative Biology; American Naturalist (3); Arctic; Auk (4); Behavioral Ecology and Sociobiology; Biology Letters (2); Brain, Behavior, and Immunity (15); General and Comparative Endocrinology (21; awarded Excellence in Reviewing); Evolutionary Ecology; Evolutionary Ecology Reviews; Evolution, Medicine, and Public Health; Frontiers in Neuroendocrinology; Functional Ecology (2); Hormones & Behavior (14); International Journal of Developmental Neuroscience; Journal of Avian Biology (2); Journal of Comparative Physiology, Part B; Journal of Experimental Zoology, Part A (5); Journal of Neuroendocrinology; Journal of Ornithology; Journal of Thermal Biology; Neuroimmunomodulation (2); Oecologia; Ornitologia Neotropical; PeerJ; Physiology & Behavior (4); Physiological and Biochemical Zoology (1) Psychoneuroimmunology (7); Proceedings of the Royal Society of London, B (7); Science; SLEEP; The Condor (3); Journal of Experimental Biology; Journal of Zoology

Public Service

Kentucky Live & Far Away Places, Community presentation about arctic-breeding birds of Alaska, 2017

Tuzzy Consortium Library, Schoolyard talk, Barrow, Alaska, 2016

Judge- “Zoology” student poster presentations, 2016, Kentucky Academy of Sciences, Louisville, KY

Judge- “Zoology” student oral presentations, 2014, Kentucky Academy of Sciences, Lexington, KY

Demonstrations- Potter Gray Elementary School, Science Fair, 2014

Judge- “Physiology” student oral presentations, 2012, Kentucky Academy of Sciences, Richmond, KY