Tosha R. Kelly, PhD

tosha.r.kelly@gmail.com

EDUCATION

Doctor of Philosophy in Biology, Ecology & Evolution (2018)
"Hitchhikers guide to migration: effects of experimental parasitic infection and other immune challenges on migratory traits of sparrows"
Western University, London, Ontario, Canada.
Supervisors: Dr. Beth MacDougall-Shackleton & Dr. Scott MacDougall-Shackleton

Master of Science in Biology, Ecology & Evolution (2014)
"Immune function and infection status is related to migration distance and phases of the annual cycle in song sparrows (*Melospiza melodia*)"
Western University, London, Ontario, Canada.
Supervisors: Dr. Beth MacDougall-Shackleton & Dr. Scott MacDougall-Shackleton

Bachelor of Science (Honours) in Biology (2012)
Trent University, Peterborough, Ontario, Canada.

ACADEMIC POSITIONS

Research Associate (2024 – current) *Microbial basis of avian immunity*
Investigating how early microbe exposure affects immune system development
Biological Sciences, Kent State University, Kent, Ohio, USA
Supervisor: Dr. Brian Trevelline

Postdoctoral Fellow (2019 – 2024) *Host-parasite interactions; pathology*
Investigating the neuroendocrine & immunological basis for disease resilience in wildlife
Biological Sciences, Louisiana State University, Baton Rouge, Louisiana, USA
Supervisor: Dr. Christine Lattin

Research Assistant (Summer 2012) *Stress physiology & ecology*
Trent University & Ministry of Natural Resources, Rainy River, Ontario, Canada
Supervisor: Dr. Gary Burness

Research Assistant (Summer 2009) *Crop agriculture*
Ontario Ministry of Agriculture, Food, and Rural Affairs, Simcoe, Ontario, Canada
Supervisor: Dr. Jim Todd

RESEARCH GRANTS $207,000.00 USD

Franklin Research Grant, American Philosophical Society, 2023, $6000 USD.

Merck Awardee of the Life Sciences Research Foundation Postdoctoral Fellowship, 2020, $196 000 USD (3 years of stipend and research expenses).

Postdoctoral Research Award, American Ornithological Society, 2020, $2500 USD.

Student Research Grant, Animal Behavior Society, 2016, $1000 USD.

Taverner Award, Society of Canadian Ornithologists / Société des ornithologistes du Canada, 2015, $2000 CAD.

AWARDS & SCHOLARSHIPS $17,000.00 USD

Professional Conference Travel Award, University Research Council of Kent State University, $1000, 2025

General Travel Award, American Ornithological Society & Society of Canadian Ornithologists / Société des ornithologistes du Canada Joint Meeting, $815 USD, 2023.

Dorothy Skinner Award, Society for Integrative and Comparative Biology, 2023.

Best Ecology & Evolution Standard Talk, Society for Integrative and Comparative Biology, 2018, $150 USD.

Biology Graduate Student Travel Award, Western University, 2018, $285 CAD.

Ontario Graduate Scholarship (OGS), Western University, 2017-2018, $15000 CAD.

Biology Graduate Student Travel Award, Western University, 2017, $50 CAD.

Robert & Ruth Lumsden Graduate Awards in Science, 2017, $1500 CAD.

Biology Graduate Student Travel Award, Western University, 2015, $300 CAD.

Dean's Honour Roll, Trent University, September 2008 - April 2009, $1000 CAD.

Dean's Honour Roll, Trent University, September 2010 - April 2011, $1000 CAD.

Dean's Honour Roll, Trent University, September 2011 - April 2012, $1000 CAD.

President's Honour Roll, Trent University.

REFEREED PUBLICATIONS **Google Scholar** (link): 558 citations, h-index = 13, ¡10=index = 17

† = mentee for the project; * = equal contribution to first authorship

28) **Kelly, T.R.**, Lynch, K.I.†, A.L. Cannon†, K.E. Couvillion† & C.R. Lattin. Behavioural infection tolerance of malaria is negatively correlated with pro-inflammatory cytokine expression in the brain of an invasive songbird. *Behavioral Ecology and Sociobiology*, 79 https://doi.org/10.1007/s00265-025-03589-1.

27) Lynch, K.I.†, **T.R. Kelly***, D. Erram, C.R. Lattin, & L. Foil. *Leucocytozoon* prevalence differs by sex in Louisiana wild turkeys (*Meleagris gallapavo*). *Avian Diseases* https://doi.org/10.1637/aviandiseases-D-25-00022.

26) Henry, M.S., M.G. Kimball, E.B. Cochran, B.A. Dusang, W.J. Frazier, K.R. Stansberry, T.R. Kelly, E. Stelling & C.R. Lattin. A glucocorticoid receptor antagonist affects corticosterone but not neophobia in wild-caught house sparrows (*Passer domesticus*). *Journal of Neuroendocrinology*: e70009, https://doi.org/10.1111/jne.70009.

25) Stansberry, K.R., **T.R. Kelly**, K.E. Couvillion, A.L. Cannon, M.G. Kimball, H.B. Callegan, K.J. Krajcir, J.D. Kittilson, B.J. Heidinger, & C.R. Lattin. Day late, dollar short: runts of more asynchronously hatched European starling broods have reduced survival and body size but suffer

limited costs to physiological development. *Journal of Experimental Zoology Part A: Ecological and Integrative Physiology*, https://doi.org/10.1002/jez.2892.

24) Noble, R.K. †*, **T.R. Kelly*** & C.R. Lattin. 2025. Galactose-α-1,3-galactose-presenting bacterial families are associated with resistance to experimental avian malaria inoculation. *Journal of Avian Biology*, e03330, https://doi.org/10.1111/jav.03330.

23) Krajcir, K., **T.R. Kelly**, M.G. Kimball, E. Cochran, K. Stansberry, B. Dusang, A. Patel, D. Masri, S. Lipshutz & C.R. Lattin. 2024. Eurasian tree sparrows are more food neophobic and habituate to objects more slowly than house sparrows. Biological Invasions, 26(11): 3677-3693, https://doi.org/10.1007/s10530-024-03403-5.

22) Kimball, M.G., D.F. Masri, E.B. Gautreaux, K.R. Stansberry, **T.R. Kelly** & C.R. Lattin. 2024. Conspecific alarm calls prevent the attenuation of neophobia behavior in wild-caught house sparrows (*Passer domesticus*). Frontiers in Bird Science: Bird Ecology and Behavior 3: 1440063, https://doi.org/10.3389/fbirs.2024.1440063.

21) **Kelly, T.R.**, A.L. Cannon†, K.R. Stansberry, M.G. Kimball & C.R. Lattin. 2024. Hypothalamic-pituitary-adrenal axis function, immunity, and glucose during acute malaria *Plasmodium relictum* infection in house sparrows (*Passer domesticus*). General and Comparative Endocrinology, 114388, https://doi.org/10.1016/j.ygcen.2023.114388.

20) **Kelly, T.R.**, A.C. Butnari, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton. 2023. Rising to the challenge: mounting an acute phase immune response has no long-term negative effects on captive sparrow migratory body composition or migratory restlessness. Integrative and Comparative Biology 63(6): 1182-1196, https://doi.org/10.1093/icb/icad109.

19) Kimball, M.G., C.T. Harding, K.E. Couvillion, **T.R. Kelly**, K.R. Stansberry & C.R. Lattin. 2023. Effect of estradiol and predator cues on behavior and brain responses of captive female house sparrows (*Passer domesticus*). Frontiers in Physiology 14: 1172865, https://doi.org/10.3389/fphys.2023.1172865.

18) Grieves, L.A., L. Balogh, **T.R. Kelly**, E.A. MacDougall-Shackleton. 2023. Haemosporidian infection prevalence varies temporally and spatially and Leucocytozoon infections are male biased in song sparrows. Ornithology 140(2): ukad008, https://doi.org/10.1093/ornithology/ukad008.

17) Lattin, C.R., **T.R. Kelly,** M.W. Kelly & K.M. Johnson. 2022. Constitutive gene expression differs in three brain regions important for cognition in neophobic and non-neophobic house sparrows (*Passer domesticus*). PLoS ONE 17(5): e0267180.

16) Kimball, M.G., E.B. Gautreaux, K.E. Couvillion, **T.R. Kelly**, K.R. Stansberry & C.R. Lattin. 2022. Novel objects alter immediate early gene expression globally for ZENK and regionally for c-Fos in neophobic and non-neophobic house sparrows. Behavioural Brain Research 428: 113863.

15) **Kelly, T.R.**, A. Vinson† & C.R. Lattin. 2022. No guts about it: captivity, but not neophobia phenotype, influences cloaca microbiome of house sparrows (*Passer domesticus*). Integrative Organismal Biology 4(1): obac010.

14) **Kelly, T.R.**, K.I. Lynch, K.E†. Couvillion†, J.N. Gallagher†, K.R. Stansberry, M.G. Kimball, & C.R. Lattin. 2022. A transient reduction in circulating corticosterone reduces object neophobia. Hormones and Behavior 137: 105094.

13) Grieves, L., Gloor, G., **T. Kelly**, M. Bernards, & E. MacDougall-Shackleton. 2021. Preen gland microbiota of songbirds differ across populations but not sexes. Journal of Animal Ecology 00: 1-11. DOI: 10.1111/1365-2656.13531.

12) **Kelly, T.R.**, M.G. Kimball, K.R. Stansberry & C.R. Lattin. 2020. No, you go first: phenotype and social context affect house sparrow neophobia. Biology Letters 16(9): 20200286.

11) **Kelly, T.R.**, B.D. Rubin, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. 2020. Experimental exposure to malaria affects songbirds' migratory nocturnal activity. Physiological and Biochemical Zoology. 93(2): 97-110.

10) Lattin, C.R. & **T.R. Kelly**. 2020. Glucocorticoid negative feedback as a potential mediator of trade-offs between reproduction and survival. General and Comparative Endocrinology 286: 113301.

9) **Kelly, T.R.**, K.A. Hobson, G.W. Casbourn, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton. 2019. Long-term winter-site fidelity in Song Sparrows *Melospiza melodia*. The Auk 136(2): ukz010.

8) Vojtěch, B., J. Koleček, M. Burgess, S. Hahn, M. Krist, J. Ouwehand, E.L. Weiser, P. Adamík, J.A. Alves, D. Arlt, S. Barišić, D. Becker, E.J. Belda, V. Beran, C. Both, S.P. Bravo, M. Briedis, B. Chutný, D. Ćiković, N. Cooper, J.S. Costa, V.R. Cueto, T. Emmenegger, K. Fraser, O. Gilg, M. Guerrero, M.T. Hallworth, C. Hewson, D. Humple, F. Jiguet, J. Johnson, **T.R. Kelly**, D. Kishkinev, M. Leconte, T. Lislevand, S. Lisovski, C. López, K. MacFarland, P.P. Marra, S.M. Matsuoka, P. Matyjasiak, C.M. Meier, B. Metzger, J.S. Monrós, R. Neumann, A. Newman, R. Norris, T. Pärt, V. Pavel, N. Perlut, M. Piha, J. Reneerkens, C. Rimmer, A. Roberto-Charron, C. Scandolara, N. Sokolova, M. Takenaka, D. Tolkmitt, H. van Oosten, A. Wellbrock, H. Wheeler, J. van der Winden, K. Witte, B. Woodworth, P. Procházka. 2019. Weak effects of geolocators on small birds: a meta-analysis controlled for phylogeny and publication bias. Journal of Animal Ecology 89(1): 207-220.

7) Boyd, R.J.†, **T.R. Kelly**, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. 2018. Alternative reproductive strategies in white-throated sparrows are associated with differences in malarial parasite load following experimental infection. Biology Letters. 14(7): 10.1098/rsbl.2018.0194.

6) Grieves, L.A., **T.R. Kelly**, M.A. Bernards & E.A. MacDougall-Shackleton. 2018. Chemical composition of preen oil does not signal malarial infection in songbirds: results from an experimental study. The Auk: Ornithological Advances. 135(3): 767-776.

5) **Kelly, T.R.**, S.J. Bonner, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. 2018. Exposing migratory sparrows to *Plasmodium* suggests costs of resistance, not necessarily of infection itself. Journal of Experimental Zoology Part A: Ecological and Integrative Physiology. 329(1): 5-14.

4) **Kelly, T.R.**, H.L. MacGillivray, K.A. Hobson, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. 2017. Immune profiles vary seasonally, but are not significantly related to migration distance of natal dispersal, in a migratory songbird. Journal of Experimental Zoology Part A: Ecological and Integrative Physiology. 327(5): 284-292.

3) Slade, J.W.G., M.J. Watson, **T.R. Kelly**, G.B. Gloor, M.A. Bernards & E.A. MacDougall-Shackleton. 2016. Chemical composition of preen wax reflects MHC similarity in breeding songbirds. Proceedings of the Royal Society B. 283: 20161966.

2) Lymburner, A.H.†, **T.R. Kelly**, K. Hobson, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton. 2016. Testosterone, migration distance, and migratory timing in song sparrows *Melospiza melodia*. Hormones and Behavior. 85: 102-107.

1) **Kelly, T.R.**, H.L. MacGillivray, Y. Sarquis-Adamson, M.J. Watson, K.A. Hobson & E.A. MacDougall-Shackleton. 2016. Seasonal migration distance varies with natal dispersal and

predicts parasitic infection in song sparrows. Behavioral Ecology and Sociobiology. 70: 1857-1866.

OTHER PUBLICATIONS

2) "Creativity in Art and Science" 2025. Integrative Organismal Biology, Society for Integrative and Comparative Biology.
https://iobopen.com/2025/01/21/creativity-in-art-and-science/

1) "Flocking together: bird research unites LSU scientists across disciplines" 2024. Science Next, Louisiana State University's College of Science.
https://www.lsu.edu/science/news/science-next/2024/05/bird-lunch-meeting.php

CONFERENCE AND INVITED PRESENTATIONS

INVITED PRESENTATIONS

[anticipated] "Immunity in the context of microbiomes" Kent State University's General Microbiology (BSCI30171), Kent, Ohio, USA, December 2025. [3-part Guest Lecture Series]

[anticipated] "With a little help from my microbes: how tiny communities shape immunity and disease outcomes." Biology Seminar Series, University of New Brunswick, Fredericton, New Brunswick, Canada, February 2026.
[Department Seminar, Graduate Student Lunch]

[anticipated] "Winging it: how a biologist found her wings." Women in STEM, University of New Brunswick, Fredericton, New Brunswick, Canada, February 2026.
[Guest Speaker, Q&A]

17) "Avian malaria as a model system to develop biomarkers of infectious disease severity in wildlife." Biology Seminar Series, Kent State University, Kent, Ohio, USA, January 2025.
[Department Seminar, Graduate Student Lunch]

16) "Avian malaria disease ecology & pathology: my path to developing biomarkers of disease resistance and tolerance for use in wild birds." Atlantic Canada Association of Parasitologists Meeting, Wolfville, Nova Scotia, Canada, October 2024.
[Keynote Speaker]

15) "Chronicles of avian malaria inoculations: insights for migration ecology & immune responses of wild birds", Louisiana State University, Baton Rouge, Louisiana, USA, October 2023.
[Systematics, Ecology, and Evolution Department Seminar]

14) "Chronicles of avian malaria inoculations: insights for migration ecology & stress physiology", University of South Alabama, Mobile, Alabama, USA, August 2022.
[Department Seminar, Graduate Student Lunch]

13) Live Watercolour Painting Demonstration, Society for Integrative and Comparative Biology Annual Meeting, Pheonix, Arizona, USA, January 2022.
[Demonstration]

12) "Avian Migration: adaptations, feats, and disease", Louisiana State University's Animal Migration (OCS 4001), Baton Rouge, Louisiana, USA, March 2021. [Guest Lecture]

11) "The HPA axis as a mediator of host-pathogen dynamics", Duquesne University's Advanced Topics: Stress Physiology (BIOL 646), Pittsburgh, Pennsylvania, March 2021.
[Guest Lecture followed by Q & A; virtual]

10) "Exposure to malaria, not necessarily infection itself, can affect migratory traits of songbirds: evidence from captive and field-based experiments", Fresno City College (BIOL 181), Fresno, California, March 2020.
['Meet an Ecoimmunologist' Guest Lecture & Q&A; virtual]

9) "Avian Migration: adaptations, feats, and disease", Louisiana State University's Animal Migration (OCS 4001), Baton Rouge, Louisiana, USA, October 2019. [Guest Lecture]

8) "Hitchhikers guide to migration: effects of experimental parasitic infection and other immune challenges on migratory traits of sparrows." Louisiana State University, Baton Rouge, Louisiana, USA, April 2019.
[Cellular, Developmental, and Integrative Biology Seminar Series]

7) ***Kelly, T.R.***, S.A. MacDougall-Shackleton, S.J. Bonner, B.D. Rubin & E.A. MacDougall-Shackleton. "Hitchhikers guide to migration: dynamics of malaria infection in migratory sparrows." International Ornithological Conference, Vancouver, British Columbia, Canada August 2018. [Symposium Talk]

6) "Life on the move: migration as a behavioural adaptation", Western University's Animal Behaviour (BIOL3436), London, Ontario, Canada, October 2017. [Guest Lecture]

5) "Life on the move: migration as a behavioural adaptation", Western University's Animal Behaviour (BIOL3436), London, Ontario, Canada, December 2016. [Guest Lecture]

4) "A day in the life of a field researcher: how we collect data and what we learn from it." Queen's University Biology Station, Elgin, Ontario, Canada, May 2015. [Public Talk]

3) "Life on the move: migration as a behavioural adaptation", Western University's Animal Behaviour (BIOL3436), London, Ontario, Canada, December 2015. [Guest Lecture]

2) "A day in the life of a field researcher: how we collect data and what we learn from it." Port Burwell Provincial Park, Port Burwell, Ontario, Canada, August 2014. [Public Talk]

1) "A day in the life of a field researcher." Queen's University Biology Station, Elgin, Ontario, Canada, May 2014. [Public Talk]

CONTRIBUTED PRESENTATIONS

My name is bolded, presenting author is italicized. † = a mentee.
<u>Underlined</u> numbers = my research program.

66) Henry, M., M. Kimball, E. Cochran, B.A. Dusang, W.J. Frazier, K.G. Stansberry, **T.R. Kelly**, E. Stelling & C.R. Lattin "The role of glucocorticoid receptors in mediating neophobia behavior in a wild bird." The Society for Integrative and Comparative Biology, Atlanta, Georgia, USA, January 2025. [Talk]

65) Stelling, E., M. Henry, C. Henry, K.G. Stansberry, **T.R. Kelly**, A. Blanchette, A.R. Gunderson & C.R. Lattin. "Changes in stress-induced corticosterone between pre- and post-captivity in two anole species." The Society for Integrative and Comparative Biology, Atlanta, Georgia, USA, January 2025. [Poster]

64) Masri, D.F., W.J. Frazier, **T.R. Kelly** & C.R. Lattin. "Beak wiping stereotypies are not correlated with neophobia in captive house sparrows." The Society for Integrative and Comparative Biology, Atlanta, Georgia, USA, January 2025. [Poster]

63) ***Kelly, T.R.***, K.R. Stansberry, K.G. Kimball, K.E. Couvillion†, A.L. Cannon & C.R. Lattin. "Reducing corticosterone may affect resistance and tolerance during acute avian malaria infection." The Society for Integrative and Comparative Biology, Seattle, Washington, USA, January 2024. [Talk]

62) *Lattin, C.R.,* K.J. Krajcir, **T.R. Kelly**, M.G. Kimball, E. Cochran, K.R. Stansberry, B.A. Dusang, A. Patel, D.F. Masri & S. Lipshutz. "A possible role for neophobia in invasion success: a tale of two sparrows" The Society for Integrative and Comparative Biology, Seattle, Washington, USA, January 2024. [Talk]

61) *Kimball, M.G.*, D.F. Masri, E. Gautreaux, K.R. Stansberry, **T.R. Kelly** & C.R. Lattin. "Conspecific alarm calls prevent the attenuation of neophobia in wild-caught house sparrows" The Society for Integrative and Comparative Biology, Seattle, Washington, USA, January 2024. [Talk]

60) *Lynch, K.I.†,* C.R. Lattin & **T.R. Kelly**. "Operation brainstorm: developing molecular biomarkers to detect the pathology of cerebral malaria in wild birds" The Society for Integrative and Comparative Biology, Seattle, Washington, USA, January 2024. [Poster]
**Second place, Best Student Poster in the Division of Ecoimmunology and Disease Ecology.*

59) *Stansberry, K.R.,* K.E. Couvillion†, **T.R. Kelly**, A.L. Cannon†, M.G. Kimball & C.R. Lattin. "Ectoparasite infestation alters alpha and beta diversity in skin microbiome of an altricial bird" The Society for Integrative and Comparative Biology, Seattle, Washington, USA, January 2024. [Poster]

58) ***Kelly, T.R.***, R.K. Noble† & C.R. Lattin. "Fecal matters: gut microbial diversity and composition during experimental avian malaria infection" American Ornithological Society & Society of Canadian Ornithologists / Société des ornithologistes du Canada Joint Meeting, London, Ontario, Canada, August 2023. [Talk]

57) ***Kelly, T.R.*** "Experimental avian malaria inoculation reveals physiological responses of wild birds to acute infection that may confer resistance" Life Science's Research Foundation Annual Meeting, San Diego, California, April 2023. [Talk]

56) *Noble, R.K.†*, **T.R. Kelly** & C.R. Lattin. "Links between diversity and composition of the avian gut microbiome and resistance to experimental malaria infection in house sparrows (*Passer domesticus*)" LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, April 2023. [Talk]

55) *Lynch, K.L.†*, **T.R. Kelly** & C.R. Lattin. "Testing the angiopoeitin-1/angiopoeitin-2 ratio as a biomarker of cerebral malaria in wild birds" LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, April 2023. [Talk]

54) ***Kelly, T.R.***, K.I. Lynch†, K.E. Couvillion†, J.N. Gallagher†, K.R. Stansberry, M.G. Kimball & C.R. Lattin "A transient reduction in circulating corticosterone reduces object neophobia in male house sparrows" The Society for Integrative and Comparative Biology, Austin, Texas, USA, January 2023. [Talk & virtual SICB+]

53) *Stansberry, K.R.*, K.E. Couvillion†, **T.R. Kelly**, A. Cannon†, M.G. Kimball & C.R. Lattin. "Compensatory growth tradeoffs of experimentally induced asynchronous hatching in a songbird" The Society for Integrative and Comparative Biology, Austin, Texas, USA, January 2023. [Talk & virtual SICB+]

52) *Kimball, M.G.*, C. Harding, K.R. Stansberry, **T.R. Kelly** and C.R. Lattin. "Estradiol and predator cues affect behavior and brain responses of captive female house sparrows" The Society for Integrative and Comparative Biology, Austin, Texas, USA, January 2023. [Talk & virtual SICB+]

51) ***Kelly, T.R.*** "Avian malaria as a model to develop biomarkers of infectious disease severity that can be applied to wild bird populations" Postdoc Appreciation Day, Louisiana State University, USA, October 2022. [Talk]

50) Cannon, A.L.†, ***T.R. Kelly*** & C.R. Lattin. "Acute malaria infection alters cytokine-glucocorticoid relationships in house sparrows" International Symposium on Avian Endocrinology, Edinburgh, Scotland, United Kingdom, July 2022. [Talk]

49) *Kimball, M.G.,* C. Harding, K.R. Stansberry, **T.R. Kelly** & C.R. Lattin. "Estradiol and predator cues affect behavior and brain responses of captive female house sparrows" Animal Behavior Society, San José, Costa Rica, July 2022. [Talk]

48) ***Kelly, T.R.***, K.I. Lynch†, K.E. Couvillion†, J.N. Gallagher†, K.R. Stansberry, M.G. Kimball & C.R. Lattin. "A transient reduction in corticosterone reduces object neophobia in male house sparrows" Life Science Research Foundation Annual Meeting, Philadelphia, Pennsylvania, USA, April 2022. [Poster]

47) *Couvillion, K.E.†*, **T.R. Kelly**, M.G. Kimball, K.R. Stansberry & C.R. Lattin. "Sulfur dust bags as a potential non-toxic ectoparasite treatment in free-living songbirds" LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, Virtual, April 2022. [Poster]

46) *Cannon, A.L.†*, **Kelly, T.R.** & C.R. Lattin. "Cytokine expression in resistant and tolerant house sparrows to experimental avian malaria inoculation" LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, Virtual, April 2022. [Talk]

45) ***Kelly, T.R.***, K.R. Stansberry, M.G. Kimball & C.R. Lattin. "HPA axis function, but not immunity, is related to resistance and tolerance during experimental malaria inoculation in house sparrows" The Society for Integrative and Comparative Biology, Phoenix, Arizona, USA, January 2022. [Talk]

44) *Stansberry, K.R.*, **T.R. Kelly**, K.E. Couvillion†, A.L. Cannon†, J.D. Kittilson, B.J. Heidinger & C.R. Lattin. "Effects of experimentally-induced asynchronous hatching on development in a songbird" The Society for Integrative and Comparative Biology, Phoenix, Arizona, USA, January 2022. [Poster]

43) *Lattin, C.R.*, M.G. Kimball, K.R. Stansberry, **T.R. Kelly**, M.W. Kelly & K.M. Johnson. "Evidence for a key role of the caudal dorsomedial hippocampus in house sparrow neophobia" The Society for Integrative and Comparative Biology, Phoenix, Arizona, USA, January 2022. [Talk]

42) *Couvillion, K.E.†*, K.R. Stansberry, **T.R. Kelly**, A.L. Cannon† & C.R. Lattin. "Sulfur dust bags as a potential non-toxic ectoparasite treatment in free-living songbirds" The Society for Integrative and Comparative Biology, SICB+, January 2022. [Poster]

41) *Harding, C.T.*, M.G. Kimball, K.R. Stansberry, **T.R. Kelly** & C.R. Lattin. "Estradiol and predator cues affect behavior of female house sparrows in captivity" The Society for Integrative and Comparative Biology, SICB+, January 2022. [Poster]

40) *Kimball, M.G.*, S.G. Ebrahim, E.B. Gautreaux, **T.R. Kelly** & C.R. Lattin. "Is spatial neophobia correlated with object neophobia in wild-caught house sparrows (*Passer domesticus*)?" The Society for Integrative and Comparative Biology, SICB+, January 2022. [Poster]

39) *Lynch, K.I.†*, **T.R. Kelly**, C.R. Lattin, B.G. Aker, J.M. LaCour, L.D. Foil. "Avian malaria infection in wild turkeys: a cause for population decline in Louisiana?" The Society for Integrative and Comparative Biology, SICB+, January 2022. [Talk]

38) *Cannon, A.L.†*, **T.R. Kelly**, K.E. Couvillion†, A.L. Poche† & C.R. Lattin. "House sparrows do not exhibit sickness behavior during the acute stage of malaria infection" The Society for Integrative and Comparative Biology SICB+, January 2022. [Poster]

37) *Callegan, H.†* **T.R. Kelly,** K.R. Stansberry & C.R. Lattin. "Are siblings stressful? How nestling competition affects white blood cell proportions" ASPIRE, STEM Division, Baton Rouge Community College, August 2021. [Poster]

36) ***Kelly, T.R.*** & C.R. Lattin. "Hypothalamic-pituitary-adrenal (HPA) axis function may mediate resistance and tolerance to malaria in wild birds" Life Science Research Foundation Annual Meeting, Virtual, May 2021. [Poster]

35) *Lynch, K.I†.,* **T.R. Kelly**, C.R. Lattin & L. Foil. "*Leucocytozoon* a possible culprit for the decline of wild turkeys (*Meleagris gallopavo*) in Louisiana." LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, Virtual, April 2021. [Poster]

34) *Gallagher, J.N.†, A.C. Burleigh†,* **T.R. Kelly** & C.R. Lattin. "White blood cell proportions in blood and organs of house sparrows (*Passer domesticus*) during experimental malaria infection." LSU Discovery Day – Undergraduate Research and Creativity Symposium, Louisiana State University, Virtual, April 2021. [Poster]

33) ***Kelly, T.R.*,** A. Vinson† & C.R. Lattin. "No guts about it: captivity, but not neophobia phenotype, affects cloacal microbiome of house sparrows." The Society for Integrative and Comparative Biology Virtual Annual Meeting, January 2021. [Talk]

32) *Kimball, M.G.,* **T.R. Kelly**, K.R. Stansberry & C.R. Lattin. "Neural expression of two immediate early genes do not differ in response to novel objects in neophobic and non-neophobic house sparrows (*Passer domesticus*)." The Society for Integrative and Comparative Biology Virtual Annual Meeting, January 2021. [Talk]

31) *Lattin, C.R.,* K.M. Johnson & **T.R. Kelly**. "Constitutive gene expression differs in three brain regions important for cognition in neophobic and non-neophobic house sparrows (*Passer domesticus*)." The Society for Integrative and Comparative Biology Virtual Annual Meeting, January 2021. [Talk]

30) *Stansberry, K.R.,* **T.R. Kelly** & C.R. Lattin. "Increased phagocytic capability prior to experimental malaria inoculation may reduce likelihood of infection at no cost to body condition." The Society for Integrative and Comparative Biology Virtual Annual Meeting, January 2021. [Poster]

29) *Couvillion, K.E.†,* **T.R. Kelly** & C.R. Lattin. "Effects of experimental malaria infection on self-maintenance behavior in house sparrows." The Society for Integrative and Comparative Biology Virtual Annual Meeting, January 2021. [Poster]

28) ***Kelly, T.R.***, A. Boyer, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton. "Experimental acute-phase immune activation in migratory sparrows has host-antigen specific effects on body mass and migratory restlessness." The Society for Integrative and Comparative Biology, Austin, Texas, USA, January 2020. [Talk]

27) *Lattin, C.R.* & **T.R. Kelly**. "Method matters: considerations for calculating glucocorticoid negative feedback." The Society for Integrative and Comparative Biology, Austin, Texas, USA, January 2020. [Talk]

26) *Lattin, C.R.* & **T.R. Kelly**. "Reporting glucocorticoid negative feedback: method matters." Society for Behavioural Neuroendocrinology, Indiana University Bloomington, Bloomington, Indiana, USA, July 2019. [Poster]

25) *Slade, J.W.G.*, M.J. Watson, **T.R. Kelly** & E.A. MacDougall-Shackleton. "Chemical and acoustic signals of MHC and MHC-mediated mate choice in a wild songbird." Animal Behaviour Society, University of Wisconsin, Milwaukee, Wisconsin, USA, August 2018. [Talk]

24) ***Kelly, T.R.***, K.A. Hobson, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Track me if you can: long-term site fidelity in song sparrows." Ontario Ecology, Ethology and Evolution Colloquium, Western University, London, Ontario, Canada, May 2018. [Talk]

23) *Boyd, R.J.†*, **T.R. Kelly**, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Alternative reproductive strategies in white-throated sparrows are associated with differences in malarial infection intensity." Ontario Ecology, Ethology and Evolution Colloquium, Western University, London, Ontario, Canada, May 2018. [Lightning Talk]
**Second place for best lightning talk.*

22) ***Kelly, T.R.***, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Effects of experimental *Plasmodium* infection on spring migratory behaviour and body condition in white-throated sparrows (*Zonotrichia albicollis*)." Society for Integrative and Comparative Biology, San Francisco, California, USA, January 2018. [Talk]
**Selected as Best Student Presentation in Division of Ecoimmunology and Disease Ecology.*

21) *Grieves, L.A.*, **T.R. Kelly**, M. A. Bernards & E.A. MacDougall-Shackleton. "Sick birds don't smell: Assessing the impact of haematozoan infection on avian preen oil chemical composition." Society for Integrative and Comparative Biology, San Francisco, Califronia, USA, January 2018. [Talk]

20) *Slade, J.W.G.*, M.J. Watson, **T.R. Kelly**, M.A. Bernards, S.G. Garner & E.A. MacDougall-Shackleton. "MHC-mediated mate choice and preen oil as a chemical signal of MHC similarity in song sparrows (*Melospiza melodia*)." Society for Integrative and Comparative Biology, San Francisco, California, USA, January 2018. [Talk]

19) **Kelly, T.R.**, S.J. Bonner, S.A. MacDougall-Shackleton & *E.A. MacDougall-Shackleton*. "Exposing migratory songbirds to malarial parasites suggests costs of resistance, not of infection." Society for Integrative and Comparative Biology, San Francisco, California, USA, January 2018. [Talk]

18) *P. Procházka*, V. Brlík, J. Koleček1, D. Arlt, S.V. Barišić, D. Becker , E.J. Belda, S.P. Bravo, M. Burgess, D. Ćiković, B. Chutný, N. Cooper, V.R. Cueto, T. Emmenegger, K.C. Fraser, S. Hahn, C. Hewson, D.L. Humple, F. Jiguet, J. Johnson, **T.R. Kelly**, D. Kishkinev, M. Léconte, P. Matyjasiak, K. McFarland, C. Meier, J.S. Monrós, R. Neumann, R. Norris, T. Pärt, V. Pavel, N. Perlut, M. Piha, C. Rimmer, A. Roberto-Charron, M. Takenaka, D. Tolkmitt, H. Wheeler, H. van Oosten, A. Wellbrock, K. Witte & B. Woodworth. "Effects of geolocators on migratory birds: a meta-analysis." European Ornithologists' Union, Turku, Finland, August 2017. [Poster]

17) ***Kelly, T.R.***, S.A. MacDougall-Shackleton, S.J. Bonner & E.A. MacDougall-Shackleton. "Costs of malaria infection and resistance in migratory birds: is the cure worse than the disease?" Biology Graduate Research Forum, Western University, London, Ontario, Canada, October 2017. [Talk]
* *Selected as Best Ecology and Evolution Standard Talk.*

16) ***Kelly, T.R.***, S.A. MacDougall-Shackleton, S.J. Bonner & E.A. MacDougall-Shackleton. "Costs of malaria infection and resistance in migratory birds: is the cure worse than the disease?" Animal Behavior Society, University of Toronto, Scarborough, Ontario, Canada, June 2017. [Talk]

15) *Slade, J.*, M.J. Watson, **T.R. Kelly**, G. Gloor, M. Bernards & E.A.MacDougall-Shackleton. "Follow your nose: chemical cues of MHC compatibility and acoustic cues of MHC diversity in song sparrows." Animal Behavior Society, University of Toronto, Scarborough, Ontario, Canada, June 2017. [Talk]

14) ***Kelly, T.R.***, A.H. Lymburner, E.A. MacDougall-Shackleton, K.A. Hobson & S.A. MacDougall-Shackleton. "Testosterone, migration distance, and migratory timing in song sparrows *Melospiza melodia*." Canadian Society of Zoologists, Western University, London, Ontario, Canada, May 2016. [Talk]

13) *Slade, J.*, M.J. Watson, **T.R. Kelly**, M. Bernards, G. Gloor & E.A. MacDougall-Shackleton. "Preen oil as a signal of MHC genotype in a songbird." Society Zoologists, Western University, Ontario, Canada, May 2016. [Talk]
***** *Recipient of the Cas. C. Lindsey Prize for best Ecology, Ethology, and Evolution presentation from the Canadian Society of Zoologists.*

12) **Kelly, T.R.**, J.W.G. Slade, J. Ho, K.A. Hobson, S.A. MacDougall-Shackleton & *E.A. MacDougall-Shackleton*. "Migration, disease, and birdsong: bridging two worlds?" Winter Annual Behaviour Conference, Steamboat Springs, Colarado, USA, January 2016. [Talk]

11) **Kelly, T.R.**, H.L. MacGillivray, M.J. Watson, Y. Sarquis-Adamson, K.A. Hobson, S.A. MacDougall-Shackleton & *E.A. MacDougall-Shackleton*. "Seasonal migration distance varies with natal dispersal and predicts parasitic infection in song sparrows (*Melospiza melodia*)." The Society for Integrative and Comparative Biology, Portland, Oregon, USA, January 2016. [Talk]

10) ***Kelly, T.R.***, A. H. Lymburner, K.A. Hobson, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton. "Testosterone as a potential mediator of migration distance and migratory timing in song sparrows, *Meospiza melodia*." The Society for Integrative and Comparative Biology, Portland, Oregon, USA, January 2016. [Talk]
*****_Selected to compete in best student oral presentation._

9) **Kelly, T.R**. H.L. MacGillivray, M.J. Watson, Y. Sarquis-Adamson, K.A. Hobson, S.A. MacDougall-Shackleton & *E.A. MacDougall-Shackleton*. "Seasonal migration distance varies with natal dispersal and predicts parasitic infection in song sparrows (*Melospiza melodia*)." The Society for Integrative and Comparative Biology, Portland, Oregon, USA, January 2016. [Talk]

8) **Kelly, T.R**., H.L. MacGillivray & *E.A. MacDougall-Shackleton*. "Birds on the move: migration, dispersal, and immunity." Winter Animal Behaviour Conference, Steamboat Springs, Colorado, USA, January 2015. [Talk]

7) ***Kelly, T.R***., S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Infection status and immune function is related to migration distance in song sparrows (*Melospiza melodia*)." Biology Graduate Research Forum, Western University, London, Ontario, Canada, October 2014. [Talk]

6) ***Kelly, T.R***., S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Infection status and immune function is related to migration distance in song sparrows (*Melospiza melodia*)." Animal Behaviour Conference, Princeton University, Princeton, New Jersey, USA, August 2014. [Talk]

5) ***Kelly, T.R***., S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Song sparrows *Melospiza melodia* allocate immune function based on migratory distance and life-history stage." Western Research Forum, Western University, London, Ontario, Canada, March 2014. [Poster]

4) ***Kelly, T.R***., S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Song sparrows *Melospiza melodia* allocate immune function based on migratory distance and life-history stage." Sustainability and Environment Research Showcase, Western University, London, Ontario, Canada, February 2014. [Poster]
*****_Honourable mention for best student poster._

3) ***Kelly, T.R***., S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton. "Stable isotope analysis of migratory distance and its relationship to immune allocation in song sparrows

Melospiza melodia." Biology Graduate Research Forum, Western University, London, Ontario, Canada, October 2013. [Poster]

2) ***Kelly, T.R***. & G. Burness. "Experimental manipulation of prenatal environment in Japanese Quail and effects on offspring phenotype." Ontario Biology Day, Laurentian University, Sudbury, Ontario, Canada, March 2012. [Talk]

1) *Burness, G*., **T.R. Kelly**, D. Moher & E. Chin. "Effects of prenatal and postnatal environmental stressors on the avian phenotype." Canadian Society of Zoologists Annual Meeting, Sackville, NB, May 2012. [Talk]

TEACHING APPOINTMENTS

INSTRUCTOR

Fall 2023 Becoming a Scientist (SCI 1001), Louisiana State University. [two sections]

Fall 2018 Conservation Biology (BIOL 3442F), Western University.

TEACHING ASSISTANT POSITIONS *(all held at Western University)*

Wildlife Ecology and Management (BIOL 3446), Winter 2018 & 2016.

Conservation Biology (BIOL 3442), Fall 2017, 2016 & 2015 (half TAship).

Biology for Science II (BIOL 1002), Winter 2017, 2015, 2014 & 2013.

Scientific Methods in Biology (BIOL 2290), Fall 2016 & 2015 (half TAship).

Biology for Science I (BIOL 1001), Fall 2014 & 2013.

Statistics for Science (BIOL 2442), Fall 2012.

LEADERSHIP

2023 – current	Assistant Editor, Integrative and Comparative Biology's Division of Ecoimmunology and Disease Ecology.
2019	Member of Women in Science at Louisiana State University
2018	Ontario Ethology, Ecology and Evolution Colloquium – Submission & Program
2017	Biology Graduate Research Forum – Abstract and Submission Committee
2015 – 2018	Western University Biology Department Field Safety Committee – Graduate Student Representative
2015 – 2016	SOBGS PSAC Local 610 – Steward Representative
2014 – 2015	Western University's Society of Biology Graduate Students (SOBGS) – Undergraduate Education Committee
2012 – 2013	PSAC Local 610 Biology Steward

2009 – 2012 Trent University's Pre-Veterinary and Animal Science President (2010 – 2012) and Vice President (2009 – 2010)

STUDENT MENTORING/SUPERVISION

THESIS ADVISORY COMMITTEES

2022 – 2023 Esther Fernandez, MSc, Fresno State University.

2017 – 2018 Emma Churchman, Honours Thesis, University of Western Ontario.

HONOURS THESIS / INDEPENDENT STUDY

2023 – 2025 Ilea Kuo, Honours Thesis
"Prevalence of *Plasmodium* & *Haemoproteus* infections in altricial European starling *Sturnus vulgaris* nestlings in South Louisiana"

2023 – 2024 Kenedi Lynch, Honours Thesis
"Operation brainstorm: cerebral inflammation during experimental malaria inoculation in house sparrows (*Passer domesticus*)"
- Barry M. Goldwater Scholarship Awardee (2023)
- Astronaut Scholarship (2023)
- Huel D. Perkins Leadership Award
- LSU Nominee for Barry M. Goldwater Scholarship (2022)
- President's Future Leaders in Research Scholarship
- Contributed presentations 35, 39, 55, & 60.
- LSU College of Science Mixer [invited poster]

2022 – 2023 Riley Noble, Honours Thesis
"Fecal matters: responses of the gut microbiome to experimental malaria inoculation in house sparrows (*Passer domesticus*)"
- Contributed presentation 56 & 58
- First author on refereed publication 24

2020 – 2022 Allison Cannon, Honours Thesis
"Cytokines as the link between HPA axis and immune responses to avian malaria"
- LSU Undergraduate Research Project Grant (Summer 2021; $2500)
- Contributed presentation 38, 46 & 50
- Refereed publication 21

2019 – 2022 Kaitlin Couvillion, Honours Thesis and work-study student
"Skin decision: northern fowl mite infection alters diversity of the skin microbiome in European starling nestlings differentially with age"
- LSU Discovery Grant (2020: $1500; 2021: $1500)
- Charles S. McCleskey Memorial Endowed Scholarship ($250)
- Contributed presentation 29, 42 & 47

2019 – 2020 Abigail Vinson, Honours Thesis
"No guts about it: captivity, but not neophobia phenotype, influences cloaca

microbiome of house sparrows (*Passer domesticus*)"
- Refereed publication 15

2016 – 2017 Rachel Boyd, Independent Study
- Contributed presentation 23, second place for best lightning talk
- First author on refereed publication 7

2015 – 2016 Alannah Lymburner, Honours Thesis
- First author on refereed publication 2

2015 – 2016 Jennifer Ho, Independent Study
"Migration distance and song element sharing in song sparrows"

SCHOLARS & INTERNSHIP POSITIONS

2023 (current) Margaret Dunn, President's Future Leaders in Research Scholarship.

2021 Summer Semeion (Skye) Spencer, McNair Scholar
First generation, low income, & ethnically underrepresented in academia.

2021 Summer Hallie Callegan
Science Research Honors Program, Baton Rouge Community College
- ASPIRE, STEM Division [contributed presentation 37]

CONTRIBUTED PRESENTATIONS AS FIRST AUTHOR

2020 – 2021 Anne Burleigh
- Contributed presentation 34

2020 – 2021 Jaimie Gallagher
- Contributed presentation 34

2019 – curr. Keegan Stansberry, PhD Student
- Contributed presentation 30, 44, 53, 59

2019 – curr. Melanie Kimball, PhD Student
- Contributed presentation 32, 40, 49, 52, 61

LABORATORY TECHNIQUES & DATA QUANTIFICATION

2024 (current) Lakvinder Singh, PhD Student

2024 (current) Allison Remick, volunteer

2023 – 2024 Ilea Kuo, volunteer

2022 – 2024 Hermione Lam, volunteer

2022 – 2023 Abbie-Louise Lord, Will Fraizer, volunteers

2021 Summer Alaina Poche, volunteer

2019 – 2020 Phelan Sewell, work-study student

2019 – 2020 Lilly Kamberov, work-study student

2018 – 2020 Lauren Limpsett, volunteer

2017 – 2018 Emma Churchman

PUBLISHED PHOTOGRAPHY & ART

3) Cover image for publication 15 in Integrative Organismal Biology. Watercolour painting of a house sparrow (*Passer domesticus*).
https://doi.org/10.1093/iob/obac010

2) Cover image for Ecology and Evolution. Volume 9, Number 9, May 2019. Features a colour-banded song sparrow (*Melospiza melodia*) from a long-term study population.
https://onlinelibrary.wiley.com/doi/epdf/10.1002/ece3.4314

1) Cover image for the Journal of Experimental Zoology: A, Ecological and Integrative Physiology. Volume 329, Issue 1, January 2018. Features a singing, colour-banded song sparrow (*Melospiza melodia*).
https://onlinelibrary.wiley.com/toc/24715646/2018/329/1