

**Scott A. MacDougall-Shackleton, Ph.D.**  
*Curriculum vitae*

University of Western Ontario  
Department of Psychology  
Department of Biology  
Graduate Program in Neuroscience  
Brain and Mind Institute

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**Research Office:**

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**Research Metrics**

ORCID ID: <https://orcid.org/0000-0001-8518-765X>

Google Scholar Metrics: [Google Scholar User 8P90kTYAAAAJ](#)

Thompson Reuters ResearcherID: [C-6622-2008](#)

Publons ID: <https://publons.com/researcher/2879013/scott-a-macdougall-shackleton>

**Research Interests:**

Animal Behaviour  
Behavioural Neuroendocrinology  
Behavioural Ecology

My research is aimed at understanding how birds work. I focus on the neural and endocrine mechanisms of bird behaviour, from an ecological and evolutionary perspective. This research integrates across levels of analysis, and research topics have included birdsong learning and perception, neural plasticity, sex differences in the brain, photoperiodism, seasonal reproduction, and seasonal migration.

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**Education and Employment:**

Department Chair	2016-current	University of Western Ontario Department of Psychology
Core Member	2017-current	University of Western Ontario Brain and Mind Institute
Professor	2012-current	University of Western Ontario Department of Psychology Department of Biology (cross appointment)
Acting Dept Chair	2014-2015	University of Western Ontario Department of Psychology
Director	2009-current	Advanced Facility for Avian Research University of Western Ontario
Associate Professor	2005-2012	University of Western Ontario Department of Psychology Department of Biology (cross appointment)
Visiting Associate Professor	2010-2011	University of California – Davis Department of Neurobiology, Physiology and Behavior

Assistant Dean - Research	July-Dec 2007	University of Western Ontario Faculty of Social Science
Assistant Professor	2003-2005	University of Western Ontario Department of Biology (cross appointment)
Assistant Professor	2002-2005	University of Western Ontario Department of Psychology
Assistant Professor	1999-2001	University of Toronto at Mississauga Department of Psychology
Postdoctoral Fellow	1997-1999	Princeton University Department of Ecology and Evolutionary Biology
Ph.D.	1994-1997	Johns Hopkins University Department of Psychology
M.A.	1992-1994	Johns Hopkins University Department of Psychology
Research Technician	1991-1992	Queen's University Department of Biology
M.Sc.	1990-1991	Queen's University Department of Biology
B.Sc.(Hons)	1986-1990	Queen's University Department of Biology

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### Executive and Administrative Leadership Positions

2016-current	<p>Chair, Department of Psychology, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• ex officio on all department committee</li> <li>• oversee annual reviews, budgeting, teaching assignments</li> <li>• lead promotion and tenure decision</li> <li>• lead faculty searches, recruitment and retention</li> </ul>
2009-current	<p>Director, Advanced Facility for Avian Research, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• oversaw design and construction of research building</li> <li>• manage research facility staff</li> <li>• oversee budget, operations and maintenance of research facility</li> </ul>
2017-current	<p>Board of Directors, Canadian Council on Animal Care</p> <ul style="list-style-type: none"> <li>• support and implement CCAC mandate for guideline development and certification of institutions conducting animal research across Canada</li> <li>• Board Liaison, CCAC Standards Committee</li> <li>• Member, CCAC Finance Committee</li> </ul>
2014-2015	<p>Acting Chair, Department of Psychology, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• ex officio on all Department Committee</li> <li>• oversaw annual reviews, budgeting, teaching assignments</li> <li>• lead promotion and tenure decision</li> <li>• lead faculty searches, recruitment and retention</li> </ul>
2013-2014	<p>Associate Chair – Research, Department of Psychology, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• facilitation of grant applications</li> <li>• nominations for research awards</li> </ul>

2007-2010	<p>Associate Chair – Graduate, Department of Psychology, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• managed graduate program</li> <li>• lead policy revisions</li> <li>• managed graduate student funding</li> </ul>
2007-2008	<p>Assistant Dean – Research, Faculty of Social Science, University of Western Ontario</p> <ul style="list-style-type: none"> <li>• oversaw internal research funding</li> <li>• supported grant applications</li> <li>• served on university core planning group for research expenditures</li> </ul>

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**Honours and Awards:**

2013-2016	Discovery Accelerator Supplement Award Research Award NSERC Canada
2008-2011	Discovery Accelerator Supplement Award Research Award NSERC Canada
2007-2009	Faculty Scholar Award Research Award University of Western Ontario
2003-2008	Premier's Research Excellence Award Research Award to Support Trainees Province of Ontario
1998-1999	National Research Service Award Postdoctoral Scholarship National Institutes of Health (NIMH) USA,
1997-1999	Postdoctoral Fellowship (PDF) NSERC Canada
1992 - 1994	Postgraduate Scholarship (PGS B) NSERC Canada

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**Research Grants:**

As Principle Investigator:

- 2019-2020 Natural Sciences and Engineering Research Council of Canada,  
\$28,592 – Research Tools and Instruments Category 1  
“Field research vehicle for multiple integrative avian biology research labs”  
Scott MacDougall-Shackleton (PI) and 2 co-applicants
- 2018-2023 Natural Sciences and Engineering Research Council of Canada,  
\$47,000/year x 5 years – Discovery Grant –Individual  
“Neuroendocrine control of seasonal phenotypic plasticity in birds”
- 2017-2018 Natural Sciences and Engineering Research Council of Canada  
Operations and Maintenance Support for Research Equipment (RTI-OMSRE)  
\$140,562/year x 1 year “Operations and Maintenance Support - Advanced Facility for Avian Research”  
Scott MacDougall-Shackleton (PI) and 6 co-applicants
- 2013-2018 Natural Sciences and Engineering Research Council of Canada,  
\$60,000/year x 5 years – Discovery Grant –Individual  
“Neuroendocrine control of phenotypic plasticity in birds.”
- 2012-2013 Academic Development Fund, University of Western Ontario  
\$8,064/year x 1 year – New Research and Scholarly Initiatives Small Grant  
“Perinatal stress and cerebral myelination: consequences for communication and cognition”
- 2010-2011 Faculty of Social Science, University of Western Ontario  
\$3,000/ year x 1 year – Faculty Alumni Research Award  
“Effects of prenatal incubation temperature on neurocognitive development.”
- 2008-2013 Natural Sciences and Engineering Research Council of Canada,  
\$34,500/year x 5 years – Discovery Grant –Individual  
“Neural, behavioural, and physiological responses of birds to their social and physical environment.”
- 2006 Canada Foundation for Innovation / Ontario Research Fund / Matching funds (40/40/20)  
\$9,226,432 (New Initiatives Fund)  
“AFAR: Advanced Facilities for Avian Research: Infrastructure for Studies of Avian Physiology, Neurobiology and Behaviour”  
Scott MacDougall-Shackleton (PI) and 9 co-applicants
- 2003-2008 Natural Sciences and Engineering Research Council of Canada,  
\$29,500/year x 5 years – Discovery Grant –Individual  
“Neural and endocrine integration of environmental stimuli by songbirds.”
2003. Natural Sciences and Engineering Research Council of Canada,  
\$27,140 - Research Tools and Instruments Category 1  
“Cryostat for neuroendocrinology research group”  
Scott MacDougall-Shackleton (PI) and 4 co-applicants
- 2000 Canada Foundation for Innovation / Ontario Innovation Trust, New Opportunities Fund,  
\$233,806 Total Infrastructure Grant (40/40/20 matching funds)  
“Laboratory and animal facilities for developmental neuroscience research
- 1999-2003 Natural Sciences and Engineering Research Council of Canada,  
\$26,250/year x 4 years - Research Grant –Individual

“Response to song by female songbirds: neural mechanisms and effects of early learning”

1999 Natural Sciences and Engineering Research Council of Canada,  
\$16,000 - Equipment Grant  
“Microscope and image analysis system”

1999 Natural Sciences and Engineering Research Council of Canada,  
\$12,600 - Equipment Grant  
“Stereotaxic and lesion equipment”

As Co-applicant:

2014 Natural Sciences and Engineering Research Council of Canada,  
\$85,836/year x 1 year – Research Tools and Instruments  
“Advanced neurostereology system for integrative neurobiology group”  
Stephen Lomber (PI) and 5 co-applicants

2013-18 Canada Foundation for Innovation / Ontario Research Fund / Matching funds (40/40/20)  
\$3,429,998 (Leading Edge Fund)  
“AFAR takes flight: new technologies to study global-, regional-, and local-scale movement ecology of free-living birds”  
Christopher Guglielmo (PI) and 9 co-applicants

2012 Natural Sciences and Engineering Research Council of Canada,  
\$58,930/year x 1 year – Research Tools and Instruments  
“A gamma counter for the neuroendocrinology assay lab at the University of Western Ontario”  
Elizabeth Hampson (PI) and 1 co-applicant

2012-2013 Academic Development Fund, University of Western Ontario  
\$110,365/year x 1 year – New Research and Scholarly Initiatives Major Grant  
“Very large aviaries for conducting critical experiments on inter-seasonal and inter-generational effects on avian physiology, neurobiology, behaviour and ecology”  
L. Zanette and 4 co-applicants

2012 Natural Sciences and Engineering Research Council of Canada,  
\$89,365/year x 1 year – Research Tools and Instruments  
“Very large aviaries for conducting critical experiments on inter-seasonal and inter-generational effects on avian physiology, neurobiology, behaviour and ecology”  
Liana Zanette and 6 co-applicants

2010-2013 Natural Sciences and Engineering Research Council of Canada,  
\$57,000/year x 3 years – Major Resources Support Program:  
“A neuroendocrinology assay laboratory at the University of Western Ontario”  
Elizabeth Hampson (PI) and 2 co-applicants

2007-2010 Natural Sciences and Engineering Research Council of Canada,  
\$57,630/year x 3 years – Major Resources Support Program:  
“A Behavioural Neuroendocrinology Laboratory at the University of Western Ontario”  
Elizabeth Hampson (PI) and 3 co-applicants

2006 Natural Sciences and Engineering Research Council of Canada,  
\$30,000 - Research Tools and Instruments Category 1  
“Multimode plate reader for analysis of hormones and cytokines”  
Martin Kavaliers (PI) and 3 co-applicants

2005 Natural Sciences and Engineering Research Council of Canada,

\$26,297 - Research Tools and Instruments Category 1  
"Research vehicle for field ornithology"  
Elizabeth MacDougall-Shackleton (PI) and 2 co-applicants

2003-2004. Academic Development Fund – University of Western Ontario  
\$75,000 – New Research and Scholarly Initiative Award  
"Sex differences in spatial cognition and the brain in brown-headed cowbirds"  
David Sherry (PI) and 2 co-applicants

2003-2006. Natural Sciences and Engineering Research Council of Canada,  
\$45,000/year x 3 years – Major Facilities Access Grant  
"A behavioural neuroendocrinology laboratory and research group"  
Elizabeth Hampson (PI) and 5 co-applicants

2003-2006. Natural Sciences and Engineering Research Council of Canada,  
\$80,700/year x 3 years – Major Facilities Access Grant  
"Queen's University Biological Station"  
Raleigh Robertson (PI) and 9 co-applicants

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## Publications.

### Books

*What Is a Bird?: An Exploration of Anatomy, Physiology, Behavior, and Ecology* (2020) Edited by Tony Williams. Contributors: S. McWilliams, J.A. Clarke, E. MacDougall-Shackleton, S. MacDougall-Shackleton, F. Bonier, C. Eliasson, T.D. Williams. Princeton University Press. ISBN: 9780691200163

### Peer-reviewed journal articles and book chapters

#### [student and postdoctoral trainees in bold font]

#### In review/ in revision:

Chmura, H.E., E.M. Schultz, K.R. Brazeal, H.E. Watts, S.A. MacDougall-Shackleton, T.P. Hahn J.M. Cornelius (In Review) Annual Schedules Pp. XX-XX In: Sturkie's Avian Physiology, 7<sup>th</sup> Edition. C. Scanes, S Dridi (Editors). Academic Press

**Diez, A., H An, N Carfagnini, C Bottini**, SA MacDougall-Shackleton (In Revision) Neurogenesis and the development of neural sex differences in vocal control regions of songbirds.

**Bottini, CLJ**, SA MacDougall-Shackleton, BA Branfireun, KA Hobson (In Review) Knowledge of molt sequence is key to linking feather mercury to environmental exposure in songbirds.

#### Published: [student and postdoctoral trainees in bold font]

120. **Boyer, AC**, SA MacDougall-Shackleton (2020) High rates of exposure to simulated winter storm cues negatively affect white-throated sparrows (*Zonotrichia albicollis*) energy reserves. *Frontiers in Ecology and Evolution*. 8: 222. doi: 10.3389/fevo.2020.00222

119. **Diez, A**, SA MacDougall-Shackleton (2020) Zebra finches go wild! Experimental cultural evolution of birdsong. *Behaviour*. 157: 231-265. doi.org/10.1163/1568539X-00003588

118. **Mischler, S, EJ Karlin**, SA MacDougall-Shackleton (In Press) Call production induces motor-driven ZENK response in the song-control system of black-capped chickadees. *Animal Behaviour*. In Press

117. **Grieves, L, CLJ Bottini**, BA Branfireun, MA Bernards, SA MacDougall-Shackleton, EA MacDougall-Shackleton (2020) Food stress, but not experimental exposure to mercury, affects songbird preen oil composition. *Ecotoxicology*. 29: 275-285. doi.org/10.1007/s10646-020-02171-x

116. **Martin, RE, MC Kruger**, SA MacDougall-Shackleton, DF Sherry (2020) Black-capped chickadees (*Poecile atricapillus*) use temperature as a cue for reproductive timing. *General and Comparative Endocrinology*. 287: 113348 doi.org/10.1016/j.ygcen.2019.113348
115. **Kelly, TR**, BD Rubin, SA MacDougall-Shackleton, EA MacDougall-Shackleton (2020) Experimental exposure to malaria affects songbirds' migratory activity, regardless of infection success. *Physiological and Biochemical Zoology*. 93: 97-110. DOI: 10.1086/707495
114. MacDougall-Shackleton, SA, F Bonier, LM Romero, IT Moore (2019) Glucocorticoids and "stress" are not synonymous. *Integrative Organismal Biology* 1: obz017 [doi: doi.org/10.1093/iob/obz017]
113. Zanette, LY, **EC Hobbs, LE Witterick**, SA MacDougall-Shackleton, M Clinchy (2019) Predator-induced fear causes PTSD-like changes in the brains and behaviour of wild animals. *Scientific Reports*. 9:11474. doi.org/10.1038/s41598-019-47684-6
112. **Kelly, TR**, KA Hobson, **GW Casbourn**, EA MacDougall-Shackleton, SA MacDougall-Shackleton (2019) Long-term winter-site fidelity in Song Sparrows (*Melospiza melodia*). *Auk: Ornithological Advances*. 136: ukz010 doi.org/10.1093/auk/ukz010
111. **Diez, A., A. Cui & S.A. MacDougall-Shackleton** (2019) The neural response of female zebra finches (*Taeniopygia guttata*) to conspecific, heterospecific, and isolate song depends on early-life song exposure. *Behavioral Processes*. 163: 37-44. doi.org/10.1016/j.beproc.2017.12.022
110. **Boyd, RJ, TR Kelly**, SA MacDougall-Shackleton, EA MacDougall-Shackleton (2018) Alternative reproductive strategies in white-throated sparrows are associated with differences in parasite load following experimental infection. *Biology Letters*. 14: 20180194.
109. **Kelly, TR**, SJ Bonner, SA MacDougall-Shackleton, EA MacDougall-Shackleton (2018) Exposing migratory sparrows to *Plasmodium* suggests costs of resistance, not necessarily of infection itself. *Journal of Experimental Zoology A*. 329: 5-14.
108. Eng, M.L., V. Winter, J.E. Elliott, S.A. MacDougall-Shackleton & T.D. Williams (2018) Embryonic exposure to environmentally relevant concentrations of a brominated flame retardant reduces the size of song-control nuclei in a songbird. *Developmental Neurobiology*. 78: 799-806.
107. **Wada, H., B. Kriengwatana, T. Steury & S.A. MacDougall-Shackleton** (2018) Incubation temperature influences sex ratio and offspring's body composition in zebra finches (*Taeniopygia guttata*). *Canadian Journal of Zoology*. 96: 1010-1015 [dx.doi.org/10.1139/cjz-2017-0099]
106. **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 or natal dispersal, in a migratory songbird. *Journal of Experimental Zoology A*. 327: 284-292.
105. Moser-Purdy, C., S.A. MacDougall-Shackleton, F. Bonier, B. Graham, A. **Boyer** & D.J. Mennill (2017) Male song sparrows have elevated testosterone in response to neighbors versus strangers. *Hormones and Behavior*. 93: 47-52.
104. Bingman, V.P. & S.A. MacDougall-Shackleton (2017) The avian hippocampus and the hypothetical maps used by navigating migratory birds (with some reflection on compasses and migratory restlessness). *Journal of Comparative Physiology A*. 203: 465-474 [doi:10.1007/s00359-017-1161-0]
103. **Berchtold, A., I. Nightingale, C. Vandermeer & S.A. MacDougall-Shackleton** (2017) Experimental temperature manipulations alter songbird autumnal nocturnal migratory restlessness. *Animal Migration*. 4: 1-7
102. **Potvin, D.A., M.T. Curcio, J.P. Swaddle & S.A. MacDougall-Shackleton** (2016) Experimental exposure to urban and pink noise affects brain development and song learning in zebra finches (*Taeniopygia guttata*). *PeerJ*. 4:e2287 [doi: 10.7717/peerj.2287]
101. **Guigueno, M.F., S.A. MacDougall-Shackleton & D.F. Sherry** (2016) Sex and seasonal differences in the hippocampal volume and neurogenesis in brood-parasitic brown-headed cowbirds (*Molothrus ater*). *Developmental Neurobiology*. 76:1275-1290 [doi: 10.1002/dneu.22421]
100. **Lymburner, A.H., T.R. Kelly, K.A. 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. [doi: 10.1016/j.yhbeh.2016.06.013]

99. **Guigueno**, M.F., D.F. Sherry & S.A. MacDougall-Shackleton (2016) Sex and seasonal differences in neurogenesis and volume of the song-control system are associated with song in brood-parasitic and non-brood-parasitic icterid songbirds. *Developmental Neurobiology*. 76: 1226-1240. [doi: 10.1002/dneu.22385]
98. **Farrell**, T.M., A. **Morgan** & S.A. MacDougall-Shackleton (2016) Developmental stress impairs performance on an association task in male and female songbirds, but impairs auditory learning in females only. *Animal Cognition*. 19: 1-14 [doi:10.1007/s10071-015-0908-7]
97. **Farrell**, T.M., A. **Morgan**, Y. Sarquis-Adamson and S.A. MacDougall-Shackleton (2015) Effects of early-developmental stress on growth rates, body composition and developmental plasticity of the HPG-axis. *General and Comparative Endocrinology*. 222: 134-143. [doi:10.1016/j.ygcen.2015.08.001]
96. **Potvin**, D. & S.A. MacDougall-Shackleton (2015) Traffic noise affects embryo mortality and nestling growth rates in captive zebra finches. *Journal of Experimental Zoology A*. 323A: 722-730. [DOI: 10.1002/jez.1965]
95. MacDougall-Shackleton, S.A. (2015) Developmental stress and birdsong: integrating signal function and development. *Current Opinion in Behavioral Sciences*. 6: 104-110. [doi:10.1016/j.cobeha.2015.10.013]
94. **Wada**, H. B. **Kriengwatana**, N. **Allen**, K.L. **Schmidt**, K.K. Soma & S.A. MacDougall-Shackleton (2015) Transient and permanent effects of suboptimal incubation temperatures on growth, metabolic rate, immune function, and adrenocortical responses in zebra finches. *Journal of Experimental Biology*. 218: 2847-2855. [doi: 10.1242/jeb.114108]
93. **Potvin**, D. & S.A. MacDougall-Shackleton (2015) Experimental chronic noise exposure affects adult song in zebra finches. *Animal Behaviour*. 107: 201-207. [doi:10.1016/j.anbehav.2015.06.021]
92. **Potvin**, D., P.W. Crawford, S.A. MacDougall-Shackleton & E.A. MacDougall-Shackleton (2015) Song repertoire size, not territory location, predicts reproductive success and territory tenure in a migratory songbird. *Canadian Journal of Zoology*. 93: 627–633. [doi: 10.1139/cjz-2015-0039]
91. **Guigueno**, M.F., S.A. MacDougall-Shackleton & D.F. Sherry (2015) Sex differences in spatial memory in brown-headed cowbirds: males outperform females on a touchscreen task. *PLOS One* 10:e0128302 [DOI: 10.1371/journal.pone.0128302]
90. Watts, H.E., S.A. MacDougall-Shackleton & T.P. Hahn (2015) Variation among individuals in photoperiod responses: effects of breeding schedule, photoperiod, and experience in birds. *Journal of Experimental Zoology Part A*. 323A:368-374.
89. Sherry, D.F. & S.A. MacDougall-Shackleton (2015) Seasonal change in the avian hippocampus. *Frontiers in Neuroendocrinology*. 37:158-167. [doi: 10.1016/j.yfrne.2014.11.008]
88. **Farrell**, T., B. **Kriengwatana** & S.A. MacDougall-Shackleton (2015) Stress, development and correlated cognitive traits in songbirds. *Comparative Cognition and Behavior Reviews*. 10:1-23. [doi: 10.3819/ccbr.2015.100001]
87. **Schmidt**, K.L., S.P. Kubli, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton (2015) Early-life stress has sex-specific effects on immune function in adult song sparrows. *Physiological and Biochemical Zoology*. 88:183-194 [DOI: 10.1086/680599]
86. **Farrell**, T.M., M.A.C. Neuert, A. **Cui** & S.A. MacDougall-Shackleton (2015) Developmental stress impairs a female songbird's behavioural and neural response to a sexually-selected signal. *Animal Behaviour*. 102: 157-167. [doi: 10.1016/j.anbehav.2015.01.018]
85. MacDougall-Shackleton, S.A., H.E. Watts & T.P. Hahn (2015) Biological timekeeping: Individual variation, performance, and fitness. Pp. 235-256 In: Integrative Organismal Biology (Eds: L.B. Martin, H.A. Woods & C. Ghalambor) Wiley Scientific
84. **Kriengwatana**, B., T.M. **Farrell**, S.D.T. **Aitken**, L. **Garcia** & S.A. MacDougall-Shackleton (2015) Early-life nutritional stress affects associative learning and spatial memory but not performance on a novel object test. *Behaviour*. 152: 195-218. [DOI: 10.1163/1568539X-00003239]
83. Hahn, T.P., K.R. Brazeal, E.M. Schultz, H.E. Chmura, J.M. Cornelius, H.E. Watts & S.A. MacDougall-Shackleton (2015) Annual Schedules Pp. 847-867 In: Sturkie's Avian Physiology, 6<sup>th</sup> Ed. C. Scanes (Ed.) Academic Press



82. **Kriengwatana, B.** & S.A. MacDougall-Shackleton (2014) No trade-offs between lipid stores and structural growth in juvenile zebra finches undergoing nutritional stress during development. *Physiological and Biochemical Zoology*. 88:208-215. [DOI: 10.1086/678988]
81. **Schmidt, K.L., E.A. MacDougall-Shackleton, S.P. Kubli & S.A. MacDougall-Shackleton** (2014) Developmental stress, condition, and birdsong: a case study in song sparrows. *Integrative and Comparative Biology*. 54: 568-577. [doi: 10.1093/icb/icu090]
80. **Robertson, B.D., M.R. Hasstedt, C.L. Vandermeer & S.A. MacDougall-Shackleton** (2014) Sex steroid-independent effects of photostimulation on the song-control system of white-throated sparrows (*Zonotrichia albicollis*). *General and Comparative Endocrinology*. 204: 166-172 [doi: 10.1016/j.ygcen.2014.04.032]
79. **Guigueno, M. F., D. A. Snow, S. A. MacDougall-Shackleton & D. F. Sherry** (2014) Breeding female cowbirds have more accurate spatial memory than males. *Biology Letters*. 10: 20140026. [doi: 10.1098/rsbl.2014.0026]
78. **Kriengwatana, B., H. Wada, K.L. Schmidt, M.D. Taves, K.K. Soma, & S.A. MacDougall-Shackleton** (2014) Effects of nutritional stress during different developmental periods on song and the hypothalamic-pituitary-adrenal axis in zebra finches. *Hormones and Behavior*. 65: 285-293.
77. **Schmidt, K.L., E.A. MacDougall-Shackleton, K.K. Soma & S.A. MacDougall-Shackleton** (2014) Developmental programming of the HPA and HPG axes by early-life stress in male and female sparrows. *General and Comparative Endocrinology*. 196: 72-80 (DOI: 10.1016/j.ygcen.2013.11.014)
76. **Hall, Z. J., U. Bauchinger, A.R. Gerson, E.R. Price, L.A. Langlois, M. Boyles, B. Pierce, S.R. McWilliams, D.F. Sherry & S.A. MacDougall-Shackleton** (2014) Site-specific regulation of adult neurogenesis by dietary fatty acid content, vitamin E, and flight exercise in European starlings. *European Journal of Neuroscience*. 39: 875-882.
75. **Wada, H., A.E.M. Newman, Z.J. Hall, K.K. Soma & S.A. MacDougall-Shackleton** (2014) Effects of corticosterone and DHEA on doublecortin immunoreactivity in the song control system and hippocampus of adult song sparrows. *Developmental Neurobiology*. 74: 52-62. (DOI: 10.1002/dneu.22132)
74. **Metcalfe, J., K.L. Schmidt, W. Bezner Kerr, C.G. Guglielmo & S.A. MacDougall-Shackleton** (2013) Sparrows adjust feeding and migratory restlessness in response to experimental manipulations of barometric pressure and temperature. *Animal Behaviour*. 86: 1285-1290.
73. **Kriengwatana, B., H. Wada, A. Macmillan, S.A. MacDougall-Shackleton** (2013) Phenotypic programming of body composition, metabolic rates, and immune function by nutritional stress during early and juvenile developmental periods. *Physiological and Biochemical Zoology*. 86: 769-781 (DOI: 10.1086/673260)
72. **MacDougall-Shackleton, S.A., K.L. Schmidt, A.A. Furlonger, & E.A. MacDougall-Shackleton** (2013) HPA axis regulation, survival, and reproduction in free-living sparrows: functional relationships or developmental correlations? *General and Comparative Endocrinology*. 190: 188-193 (DOI: 10.1016/j.ygcen.2013.05.026)
71. **Schmidt, K.L., S.D. Moore, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton** (2013) Early-life stress affects song complexity, song learning, and the volume of RA in adult male song sparrows. (2013) *Animal Behaviour*. 86: 25-35. {Articled highlighted in Animal Behaviour 86: 1-2.}
70. **Schmidt, K.L., E.S. McCallum, E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton** (2013) Early-life stress affects the behavioural and neural responses of female song sparrows to conspecific song. *Animal Behaviour*. 85: 825-837. (DOI: 10.1016/j.anbehav.2013.01.029)
69. **Stevenson, T.J., T.P. Hahn, S.A. MacDougall-Shackleton & G.F. Ball** (2012) Gonadotropin-releasing hormone plasticity: a comparative perspective. *Frontiers in Neuroendocrinology*. 33: 287-300.
68. **Hall, Z.J. & S.A. MacDougall-Shackleton** (2012) Influence of testosterone metabolites on song-control system neuroplasticity during photostimulation in adult European starlings (*Sturnus vulgaris*) *PLoS ONE* 7: e40060 (DOI: 10.1371/journal.pone.0040060)
67. **Schmidt, K.L., E.A. MacDougall-Shackleton & S.A. MacDougall-Shackleton** (2012) Developmental stress has sex-specific effects on nestling growth and adult metabolic rates but no effect on adult

- body size or body composition in song sparrows. *Journal of Experimental Biology*. 215: 3207-3217. (DOI: 10.1242/jeb.068965)
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26. **Hernandez**, A.M. & MacDougall-Shackleton, S.A. 2004. Effects of early song experience on song preferences and song-control and auditory brain regions in female house finches (*Carpodacus mexicanus*). *Journal of Neurobiology*. 59: 247-258.
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11. Cho, R.N., T.P. Hahn, S.A. MacDougall-Shackleton, & G.F. Ball. (1998) Seasonal variation in brain GnRH in free-living breeding and photorefractory house finches, *Carpodacus mexicanus*. *General and Comparative Endocrinology*. 109: 244-250.
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Symposia overviews and summaries:

- Lynch, K.S. & S.A. MacDougall-Shackleton (2017) Symposium Overview: Integrating Cognitive, Motivational, and Sensory Biases Underlying Acoustic-and Multimodal-Based Mate Choice. *Integrative and Comparative Biology* 57: 795-796.
- Németh, Z., F. Bonier & S.A. MacDougall-Shackleton (2013) Coping with Uncertainty: Integrating Physiology, Behavior, and Evolutionary Ecology in a Changing World. *Integrative and Comparative Biology*. 53: 960-964 [doi: 10.1093/icb/ict089]

Replies and commentaries:

- Spencer, K.A. & S.A. MacDougall-Shackleton (2011) Singing to impress: the importance of developmental stress. *Behavioral Ecology*. 22: 14-15
- MacDougall-Shackleton, S.A. & G.F. Ball. (2002) Revising hypotheses does not indicate a flawed approach. *Trends in Cognitive Sciences*. 6: 68-69.

Book reviews:

- MacDougall-Shackleton, S.A. (2006) The Evolution of Animal Communication: Reliability and Deception in Signaling Systems. (William A. Searcy and S. Nowicki.) *Integrative and Comparative Biology*. 46: 653 – 654.

- MacDougall-Shackleton, S. (2001) Animal Signals: Signalling and Signal Design in Animal Communication (ed. by Y. Espmark, T. Amundsen and G. Rosnqvist). *Ethology*. 107: 671-672.
- MacDougall-Shackleton, S. (1997) Ecology and Evolution of Acoustic Communication in Birds (ed. by D.E. Kroodsma and E.H. Miller). *Wilson Bulletin*. 109: 760-761.
- MacDougall-Shackleton, S. (1996) Bird Song (by C.K. Catchpole and P.J.B. Slater). *Wilson Bulletin*. 108: 600-601.

Theses / Dissertations:

- Ph.D. (1997) Song production and perception in zebra finches (*Taeniopygia guttata*): ultimate and proximate factors
- M.A. (1994) Relative and absolute pitch processing in European starlings (*Sturnus vulgaris*).
- M.Sc. (1991) Singing behaviour of black-capped chickadees (*Parus atricapillus*).
- B.Sc. (1990) Variation in the song of Harris' sparrows (*Zonotrichia querula*).

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**Invited Plenary Talks, Colloquia and Departmental Seminars:**

- September 2017: *Control of seasonal phenotypic plasticity in songbirds*. Invited Department Seminar, Department of Biology, Indiana University, Bloomington IN, USA.
- June 2016: *Sex-specific effects of developmental stress on songbird*. Invited Symposium Presentation, 18th International Congress of Comparative Endocrinology, Lake Louise, Canada
- February 2015: *Tell me about your childhood: stress, developmental phenotypic plasticity, and birdsong*. Ecology and Evolutionary Biology Seminar, Department of Biology, Queen'
- May 2014: *Stress and the brain: lessons from songbirds*. Invited Plenary Talk, Southern Ontario Neuroscience Association, University of Western Ontario
- January 2014: *Developmental stress, condition, and sexually-selected traits in song sparrows*. Invited Symposium Presentation, Society for Integrative and Comparative Biology
- February 2013 – Invited Departmental Seminar, Department of Psychology, Neuroscience & Behaviour, McMaster University
- June 2012 – Invited Symposium Presentation, 10<sup>th</sup> International Symposium on Avian Endocrinology, Gifu, Japan
- January 2012 – Invited Seminar, Graduate Program in Neuroscience, York University
- September 2011 – Invited Departmental Seminar, Department of Biology, University of Western Ontario
- January 2011 – Invited Seminar, Department of Neurobiology, Physiology and Behavior, University of California Davis
- January 2011 – Invited Seminar, Animal Behavior Graduate Group, University of California Davis
- November 2008 – Invited Departmental Seminar, Department of Psychology, Dalhousie University
- September 2008 – Invited Departmental Seminar, Department of Biology, Simon Fraser University
- April 2008 – Invited Plenary Address. Ontario Ecology and Ethology Colloquium. University of Guelph, Guelph, Ontario.
- February 2007. – Departmental Colloquium, Psychology Department, University of Toronto at Mississauga.
- December 2005. – Departmental Seminar, Biology Department, Indiana University, Bloomington, Indiana.
- May 2002 – Research Seminar, Queen's University Biological Station. Queen's University.
- November 2001 – Departmental Colloquium, Psychology Department, McMaster University.
- November 2000 - Departmental Seminar, Biology Department, University of Toronto at Mississauga
- April 2000 - Animal Cognition Seminar, Department of Psychology, University of Western Ontario
- October 1999 - Brain and Behaviour Seminar, Department of Psychology, Queen's University
- October 1998 - Departmental Seminar, Biology Department, Queen's University

**Community and Public Presentations:**

- May 2017 – London Newcomers Alumnae Club, London Ontario
- March 2017 – Garden Club of London, London Ontario
- September 2016 – Lambton Wildlife presentation, Sarnia Ontario

January 2016 – Nature London “Nature in the City” series. London Public Library

April 2015 – London Public Library Lecture Series

September 2013 – Nature London, London Ontario

April 2013 – Western Senior Alumni, London Ontario

November 2009 – Toronto Ornithology Club, Toronto Ontario

March 2009 – Woodstock Field Naturalists, Woodstock Ontario

### **Symposium, Conference and Workshop Organization**

2017: Co-organized symposium on “Integrating Cognitive, Motivational and Sensory Biases Underlying Acoustic and Multimodal Mate Choice” at the January 2017 Society for Integrative and Comparative Biology meeting, New Orleans USA.

2014: Co-organized symposium on “Neural plasticity and the waxing and waning of cognition in birds” at the International Ornithological Congress, Tokyo, Japan.

2010: Co-organized the Winter Animal Behavior Conference held at Steamboat Springs, Colorado, USA.

2010: Co-organized symposium on “Developmental stress and birdsong” at the International Ornithological Congress, Brazil.

### **Selected Recent Oral and Poster Conference Presentations:**

Diez A, MacDougall-Shackleton SA (2020) Neurogenesis and the development of neural sex differences in vocal control regions of songbirds. Society for Integrative and Comparative Biology Annual Meeting, Austin TX

Kelly TR, Boyer A, MacDougall-Shackleton EA, MacDougall-Shackleton SA (2020) Experimental acute-phase immune activation in migratory sparrows has host-antigen specific effects of body mass and migratory restlessness. Society for Integrative and Comparative Biology Annual Meeting, Austin TX

Martin RJ, Kruger MC, MacDougall-Shackleton SA, Sherry DF (2020) Temperature as a supplementary cue in the reproductive timing of black-capped chickadees (*Poecilie atricapillus*) Society for Integrative and Comparative Biology Annual Meeting, Austin TX

Lupi S, Fusanie L, MacDougall-Shackleton SA, Guglielmo C (2019) Role of the gut-hormone ghrelin on stopover decisions and food intake in migratory passerine birds. 10<sup>th</sup> International Congress of Comparative Physiology and Biochemistry, Ottawa, Canada.

Brodbeck MIR, Bingman VP, Yuan S, MacDougall-Shackleton S.A. (2019). Migratory songbirds and the Earth’s magnetic field: What activates Cluster N? Annual International Conference on Comparative Cognition, April 2019, Melbourne Florida, USA.

Bingman VP, Brodbeck MIR, Yuan S, MacDougall-Shackleton SA (2019) Cluster N activity in migrating nocturnal birds: circadian control or facultative regulation? 10<sup>th</sup> RIN Conference on Animal Navigation, Royal Holloway College, UK

Boyer AC, MacDougall-Shackleton SA (2019) Spring and autumn temperatures differentially affect nocturnal migratory restlessness in a migratory songbird. Society for Integrative and Comparative Biology Annual Meeting, Tampa Bay, FL

Brodbeck MIR, Bingman VP, Yuan S, MacDougall-Shackleton SA (2019) Society for Integrative and Comparative Biology Annual Meeting, Tampa Bay, FL

MacDougall-Shackleton SA (2018) The problems with functional names. 2018 Winter Animal Behavior Conference, Steamboat Springs, Colorado

Kelly TR, MacDougall-Shackleton SA, MacDougall-Shackleton EA. (2018) Effects of experimental Plasmodium infection on spring migratory behavior and body condition in white-throated sparrows

- (*Zonotrichia albicollis*). Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Kelly TR, Bonner SJ, MacDougall-Shackleton SA, MacDougall-Shackleton EA. (2018) Exposing migratory songbirds to malarial parasites suggests costs of resistance, not of infection. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA
- MacDougall-Shackleton SA, Moore IT. (2018) Glucocorticoids and “Stress” are not synonymous. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA
- Samuels, B., J. Grahn, S. MacDougall-Shackleton, M. Henry. (2017) Can songbirds discriminate between sounds that contain strong and weak beats? Neural Entrainment Rhythm Dynamics, International Conference, Harvard University, Boston, MA, USA
- Brodbeck, M.I.R., Lomber, S.G., Sherry, D.F., & MacDougall-Shackleton, S.A. (2017). The role of the hippocampus in encoding, retention, and retrieval of spatial memory in brown-headed cowbirds. Animal Behavior Society, University of Toronto, Scarborough, Ontario, Canada.
- Boyer, A. & MacDougall-Shackleton, S.A. (2017) Comparing effects of recurrent inclement winter weather cues on white-throated sparrows. Animal Behavior Society, University of Toronto, Scarborough, Ontario, Canada.
- Kelly, T., S. MacDougall-Shackleton, S. Bonner, E. MacDougall-Shackleton (2017) 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.
- Brodbeck, M.I.R., Lomber, S.G., Sherry, D.F., & MacDougall-Shackleton, S.A. (2017). Cryoloops in an avian species: A Method to reversibly deactivate the hippocampus. Annual International Conference on Comparative Cognition, Melbourne, Florida, USA.
- Guigueno MF, MacDougall-Shackleton SA, Sherry DF (2016) Sex and seasonal differences in hippocampus volume and neurogenesis in brood-parasitic brown-headed cowbirds. Annual Meeting of the Canadian Society of Zoologists, London, Ontario
- Boyer A, MacDougall-Shackleton SA (2016) Effects of recurrent inclement winter weather cues on white-throated sparrows. Annual Meeting of the Canadian Society of Zoologists, London, Ontario
- Mischler SK, MacDougall-Shackleton SA (2016) Song control or vocal control? The role of HVC in black-capped chickadee learned call production. Annual Meeting of the Canadian Society of Zoologists, London, Ontario
- Kelly T, Lymburner A, MacDougall-Shackleton EA, Hobson K, MacDougall-Shackleton SA (2016) Testosterone, migration distance, and migratory timing in song sparrows *Melospiza melodia*. Annual Meeting of the Canadian Society of Zoologists, London, Ontario
- Potvin, D. & S.A. MacDougall-Shackleton (2016) Effects of urban noise on songbird reproductive behavior. 2016 Winter Animal Behavior Conference, Steamboat Springs, Colorado
- Kelly TR, Lymburner AH, MacDougall-Shackleton EA, MacDougall-Shackleton SA. (2016) Testosterone as a potential mediator of migration distance and migratory timing in song sparrows *Melospiza melodia* Society for Integrative and Comparative Biology Annual Meeting, Portland, OR.
- Boyer AC, MacDougall-Shackleton SA (2016) Effects of recurrent inclement winter weather cues on white-throated sparrows, *Zonotrichia albicollis*. Society for Integrative and Comparative Biology Annual Meeting, Portland, OR.
- Kelly TR, MacGillivray HL, Watson M, Sarquis-Adamson Y, Hobson KA, MacDougall-Shackleton SA, MacDougall-Shackleton EA (2016) Seasonal migration distance varies with natal dispersal and predicts parasitic infection in song sparrows (*Melospiza melodia*). Society for Integrative and Comparative Biology Annual Meeting, Portland, OR.
- Guigueno MF, MacDougall-Shackleton SA, Sherry DF (2016) Sex and seasonal differences in hippocampal volume and neurogenesis in brood-parasitic brown-headed cowbirds (*Molothrus ater*). Society for Integrative and Comparative Biology Annual Meeting, Portland, OR.
- Potvin D, MacDougall-Shackleton EA, MacDougall-Shackleton SA (2015) Hot-shots or hot-spots? Fitness is associated with male song, not male territory location. 2015 Winter Animal Behavior Conference, Steamboat Springs, Colorado



- Robertson BD, Newman AEM, MacDougall-Shackleton SA (2015) Perils and pitfalls of manipulating glucocorticoids with silicone implants. Society for Integrative and Comparative Biology Annual Meeting, West Palm Beach, FL.
- Hobbs EC, MacDougall-Shackleton SA, Clinchy M, Zanette L (2015) Quantifying the effects of perceived predation risk on the avian brain. Society for Integrative and Comparative Biology Annual Meeting, West Palm Beach, FL.
- Mischler SK, Karlin E, MacDougall-Shackleton SA (2014) Song-control system or vocal-control system? HVC is active during production of learned aggressive calls. Society for Neuroscience Annual Meeting. Washington DC
- Hasstedt MR, MacDougall-Shackleton SA (2014) Distribution of mineralocorticoid and glucocorticoid receptor immunoreactivity in a songbird brain. Society for Neuroscience Annual Meeting. Washington DC
- MacDougall-Shackleton SA, Hall ZH, Vandermeer CL, Hasstedt MR, Robertson BD (2014) Gonad-dependent and gonad-independent regulation of neural and behavioural plasticity in songbirds. International Ornithological Congress. Tokyo, Japan.
- Guigueno MF, MacDougall-Shackleton SA, Sherry DF (2014) Sex and seasonal differences in cognition in Brown-headed Cowbirds (*Molothrus ater*). International Ornithological Congress. Tokyo, Japan.
- Guigueno MF, Snow DA, MacDougall-Shackleton SA, Sherry DF (2014) Sex differences in spatial memory in brown-headed cowbirds (*Molothrus ater*). Animal Behavior Society Conference. Princeton, NJ.
- Kelly TR, MacDougall-Shackleton SA, Norris DR, Hobson KA, MacDougall-Shackleton EA (2014) Migration distance and its relationship to immune function and parasitism in song sparrows. Animal Behavior Society Conference. Princeton, NJ.
- Farrell TM, Neuert MN, Cui A, MacDougall-Shackleton SA (2014) Early-life stress affects song preferences in adult female European starlings (*Sturnus vulgaris*). Animal Behavior Society Conference. Princeton, NJ.
- Diez A, MacDougall-Shackleton SA (2014) Cultural evolution of song: Do zebra finches go wild? Animal Behavior Society Conference. Princeton, NJ.
- Boyer AC, MacDougall-Shackleton SA (2014) Effects of simulated recurrent inclement winter weather on the stress response and feeding behaviour of white-throated sparrows (*Zonotrichia albicollis*) Animal Behavior Society Conference. Princeton, NJ.
- Potvin DA, MacDougall-Shackleton SA (2014) Cultural evolution or learning deficiencies? Effects of noise on song learning in zebra finches. Animal Behavior Society Conference. Princeton, NJ.
- MacDougall-Shackleton SA, Nightingale I, Berchtold A (2014) Experimental temperature manipulations alter songbird migratory restlessness. Animal Behavior Society Conference. Princeton, NJ.
- Piraino A, Sherry DF, MacDougall-Shackleton SA (2014) Sex differences in myelination of the song-control system. Canadian Association for Neuroscience Annual Meeting, Montreal, Canada.
- Diez A, MacDougall-Shackleton SA (2014) Memory or attention? The effect of early auditory experience on neural immediate-early gene expression in female zebra finch (*Taeniopygia guttata*) auditory forebrain areas. Canadian Association for Neuroscience Annual Meeting, Montreal, Canada.
- MacDougall-Shackleton SA, MacDougall-Shackleton EA, Schmidt KS, Kubli SA (2014) Developmental stress, condition, and sexually selected traits in song sparrows. Society for Integrative and Comparative Biology Annual Meeting, Austin, TX.
- Robertson B., Hasstedt M., Vandermeer C, MacDougall-Shackleton SA (2014) Sex steroid-independent effects of photostimulation on song system nuclei growth and HVC neurogenesis in white-throated sparrows (*Zonotrichia albicollis*). Society for Integrative and Comparative Biology Annual Meeting, Austin, TX.
- Kriengwatana B, Brooymans-Quinn J, Wada H, Schmidt KL, Soma KK, MacDougall-Shackleton SA (2013) Effect of nutritional stress at different developmental periods on HPA axis and cognition in zebra finches. Behaviour 2013, Joint Meeting of International Ethological Conference and Association for the Study of Animal Behaviour. Newcastle UK

- Vandermeer CL, Bezner Kerr W, MacDougall-Shackleton SA, Guglielmo CG (2013) The effect of testosterone on migratory restlessness, body composition and oxidative enzyme activity in white-throated sparrows (*Zonotrichia albicollis*) during spring migration. 52<sup>nd</sup> Annual Meeting of the Canadian Society of Zoologists. Guelph, Ontario.
- MacDougall-Shackleton, S.A. (2013) Developmental correlations of cognition and physiology: birdsong and male quality. 2013 Winter Animal Behavior Conference, Steamboat Springs, Colorado
- Nemeth Z, Bonier F, MacDougall-Shackleton S (2013) Introduction – Symposium S6: Coping with uncertainty: Integrating physiology, behavior and evolutionary ecology in a changing world. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Wada H, Allen NR, Kriengwatana B, Schmidt KL, Soma KK, MacDougall-Shackleton SA (2013) Corticosterone and fitness: effects of incubation temperature. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Schmidt KL, MacDougall-Shackleton EA, MacDougall-Shackleton SA (2013) The long-term effects of early-life stress on metabolic rates, body composition, and body size in song sparrows. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Vandermeer CL, Bezner Kerr W, Guglielmo CG, MacDougall-Shackleton SA (2013) Effects of testosterone on spring nocturnal migratory restlessness and body composition in *Zonotrichia albicollis*. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Kriengwatana B, Aitken SDT, Garcia L, Farrell TM, MacDougall-Shackleton SA (2013) Decline in conditions during the juvenile period impair behavioral flexibility, while consistently poor developmental conditions impair spatial memory in zebra finches. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.
- Schmidt KL, McCallum ES, MacDougall-Shackleton EA, MacDougall-Shackleton SA (2012). Early-life stress affects the behavioural and neural response of female song sparrows to conspecific song. Federation of European Neuroscience Societies, Barcelona, Spain.
- MacDougall-Shackleton SA, Schmidt KL, Furlonger A, MacDougall-Shackleton EA (2012) HPA axis regulation, survival, and reproduction in free-living sparrows: functional relationships or developmental correlations? 10<sup>th</sup> International Symposium on Avian Endocrinology, Gifu, Japan.
- Wada H, Allen NR, Kriengwatana B, Schmidt KL, Soma KK, MacDougall-Shackleton SA (2012). Corticosterone and fitness: effects of developmental stress and context. 10<sup>th</sup> International Symposium on Avian Endocrinology, Gifu, Japan.
- MacDougall-Shackleton, S.A., T. Farrell, K. Schmidt, B Kriengwatana & H. Wada (2012). Stress, development, and birdsong: linking stress physiology and sexually selected cognition. 51<sup>st</sup> Annual Meeting of the Canadian Society of Zoologists Moncton, New Brunswick
- Schmidt KL, MacDougall-Shackleton, EA, MacDougall-Shackleton, SA (2012). Long-term effects of developmental stress on song complexity, stress physiology, and immune function in song sparrows. 42<sup>nd</sup> Ontario Ecology, Ethology and Evolution Colloquium Hamilton, Ontario.
- Farrell, T. M., Wada, H., Kriengwatana, B., & MacDougall-Shackleton, S.A. (2012). Long-term effects of incubation temperature on dominance and neophobia in zebra finches. 42<sup>nd</sup> Ontario Ecology, Ethology and Evolution Colloquium Hamilton, Ontario.
- Kriengwatana, B., Aitken, S., Diez Mendieta, B.A., Macdougall-Shackleton, S.A. (2011). Effects of juvenile stress on learning, body composition, and immune function. Annual Meeting of the Netherlands Society for Behavioural Biology (NVG), Soesterberg, Netherlands.
- Schmidt KL, McCallum ES, MacDougall-Shackleton EA, MacDougall-Shackleton SA (2011). The long-term effects of early-life stress on song preferences in female song sparrows. Behavior: 1<sup>st</sup> joint meeting of International Ethological Conference and the Animal Behavior Society Bloomington, IN, USA.
- Farrell, T. M., Weaver, K.W., An, Y.-S. & MacDougall-Shackleton, S.A. (2011). Pavarottis and Einsteins: Song complexity is indicative of spatial learning ability in starlings. Behavior: 1<sup>st</sup> joint meeting of International Ethological Conference and the Animal Behavior Society Bloomington, IN, USA.

- Kriengwatana, B., Aikten, S., Diez Mendieta, B.A., MacDougall-Shackleton, S.A. (2011). Effect of stress at different developmental time periods on learning in zebra finches. Behavior: 1<sup>st</sup> joint meeting of International Ethological Conference and the Animal Behavior Society Bloomington, IN, USA.
- Farrell, T. M., Weaver, K.W., An, Y.-S. & MacDougall-Shackleton, S.A. (2011). Early nutritional stress impairs song production and spatial cognition in European starlings (*Sturnus vulgaris*). 14<sup>th</sup> Annual Meeting of the Society for Behavioral Neuroscience, Toronto, Ontario.
- MacDougall-Shackleton, S.A. (2011) Birds as barometers. 33rd Annual Winter Animal Behavior Conference, Steamboat Springs, Colorado
- Luloff, T.W., Hahn, T.P. & MacDougall-Shackleton, S.A. (2011) Visual stimulation by blooming thistles accelerates changes in reproductive physiology in American goldfinches. Society for Integrative and Comparative Biology Annual Meeting. Salt Lake City, Utah [abstract published Integrative and Comparative Biology 51: E83]
- MacDougall-Shackleton, S.A. & K.A. Spencer (2010) Development stress and birdsong: current evidence and future directions. [Symposium Keynote Presentation] 25<sup>th</sup> International Ornithological Congress, Campos do Jordão, SP, Brasil
- Farrell, T. M., Weaver, K.W., An, Y.-S. & MacDougall-Shackleton, S.A. (2011). The effects of developmental stress on cognition and song-system functioning in European starlings (*Sturnus vulgaris*). 25<sup>th</sup> International Ornithological Congress, Campos do Jordão, SP, Brasil
- Metcalfe, J., Schmidt, K., Bezner Kerr, W., Guglielmo, C.G. & MacDougall-Shackleton, S.A. (2010) Can birds respond to weather-related changes in barometric pressure? 13<sup>th</sup> Annual International Behavioural Ecology Congress. Perth, Australia
- MacDougall-Shackleton, S.A. 2010. Immediate-early gene expression in the songbird auditory forebrain: What does it mean? 32<sup>nd</sup> Annual Winter Animal Behavior Conference, Steamboat Springs, Colorado
- Eng, M.L., Letcher, R.J., MacDougall-Shackleton, S.A., Elliott, J.E. & Williams, T.D. 2010. Effects of early exposure to a brominated flame retardant (PBDE-99) on physiology and behaviour in zebra finches. Society for Integrative and Comparative Biology Annual Meeting. Seattle, Washington [abstract published Integrative and Comparative Biology 50: E51]
- Watts, H.E., MacDougall-Shackleton, S.A. & Hahn, T.P. 2010. Inter-individual variation in reproductive development in response to environmental cues. Society for Integrative and Comparative Biology Annual Meeting. Seattle, Washington [abstract published Integrative and Comparative Biology 50: E310]

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**Teaching**

**Teaching and Student Supervision**

Course Instructor:

University of Western Ontario:

2019-20 Hormones and Behaviour  
2018-19 Honours Thesis Course Instructor  
2017-18 Hormones and Behaviour  
2016-17 Evolution and Psychology  
2013-14 Introduction to Behavioural and Cognitive Neuroscience  
Hormones and Behaviour  
Evolution and Human Behaviour  
Hormones and Behaviour (graduate course)  
2012-13 Introduction to Behavioural and Cognitive Neuroscience  
Hormones and Behaviour  
Evolution and Human Behaviour  
2011-12 Introduction to Behavioural and Cognitive Neuroscience  
Hormones and Behaviour  
Evolution and Human Behaviour  
Hormones and Behaviour (graduate course)  
2010-11 on sabbatical  
2009-10 Hormones and Behaviour  
Evolution and Human Behaviour  
Hormones and Behaviour (graduate course)  
2008-09 Hormones and Behaviour  
Evolution and Human Behaviour  
Career Development in Experimental Psychology (graduate course)  
2007-08 Hormones and Behaviour  
Evolution and Human Behaviour  
2006-07 Hormones and Behaviour  
Evolution and Human Behaviour  
2005-06 Hormones and Behavior  
Biological Basis of Human Social Behaviour  
Principles of Neuroscience (Behavioural Neuroscience Module; graduate course)  
2004-05 Research in Animal Cognition  
Animal Behaviour  
Hormones and Behaviour  
2003-04 Animal Behaviour  
Research in Animal Cognition  
Professional Development (graduate course)  
2002-03 Topics in Motivation  
Behavioural Endocrinology  
2001-02 Foundations of Animal Behaviour

University of Toronto at Mississauga

2000-01 Animal Behaviour  
Hormones and Behaviour  
Animal Cognition  
1999-2000 Animal Behaviour  
Animal Cognition  
Perceptual Development

Princeton University

1997-98 Vertebrate Biology  
1996-97 Vertebrate Biology

Johns Hopkins University

1994-95 Comparative Perceptual Processes (Inter-session course)  
1993-94 Ecology of Sex (Inter-session course)

Supervision:

Postdoctoral Fellows

2018- Dr. Sara Lupi: Ghrelin and avian migration  
co supervised with C. Guglielmo and L. Fusani  
2014-2015 Dr. Dominique Potvin Urban noise as an environmental stressor in birds.  
Now tenure-stream faculty at University of the Sunshine Coast, Australia  
2009-2011 Dr. Haruka Wada Effects of developmental stress in songbirds.  
Now tenure-stream faculty at Auburn University  
2002-2005 Dr. Leslie Phillmore Seasonality and neural plasticity in songbirds.  
Now tenured faculty at Dalhousie University

PhD Students

2019- Brendon Samuels (Biology)  
2018- Madeleine Brodbeck (Psychology, co-supervised with D. Sherry)  
2017- Garth Casbourne (Biology)  
2017- Claire Bottini (Biology)  
2015-2019 Andrea Boyer (Biology, Environment and Sustainability)  
2014-2019 Tosha Kelly (Biology, co-supervised with E. MacDougall-Shackleton)  
2013- Adriana Diez (Neuroscience)  
2012-2017 Shannon Mischler (Psychology)  
2011-2014 Mélanie Guigueno (Biology, co-supervised with D. Sherry)  
2010-2015 Tara Farrell (Psychology)  
2010-2013 Kim Schmidt (Biology)  
2010-2013 Buddhamas (Pralle) Kriengwatana (Psychology)  
2008-2009 Amy Newman (visiting PhD student for 1 year)  
2003-2007 Alexandra Hernandez (Psychology)

MSc Students

2016-2018 Brendon Samuels (Neuroscience, joint supervision with J. Grahn)  
2016-2018 Chl e Carter (Neuroscience)  
2015-2017 Pavlina Faltynek (Psychology)  
2015-2017 Madeleine Brodbeck (Psychology, co-supervised with D. Sherry)  
2013-2015 Andrea Boyer (Biology)  
2013-2015 Michael Hasstedt (Biology)  
2012-2014 Adam Piraino (Psychology, co-supervised with D. Sherry)  
2012-2014 Tosha Kelly (Biology, co-supervised with E. MacDougall-Shackleton)  
2011-2013 Caitlin Vandermeer (Biology, co-supervised with C. Guglielmo)  
2011-2013 Adriana Diez (Neuroscience)  
2009-2011 Ainsley Furlonger (Biology, co-supervised with E. MacDougall-Shackleton)  
2009-2011 Thomas Luloff (Biology)  
2009-2011 Zachary Hall (Biology)  
2008-2010 Tara Farrell (Psychology)  
2007-2009 Buddhamas (Pralle) Kriengwatana (Psychology)  
2007-2009 Yong Seok An (Biology)  
2004-2006 Tyler Stevenson (Neuroscience)  
2003-2005 Jeremy Pfaff (Biology, co-supervised with L. Zanette)  
1999-2001 Alexandra Hernandez (Psychology, University of Toronto)

Undergraduate Student Research Supervision (recent)

2019-20: Lauren Lipsett (Honours Thesis)  
2018-19: Rebecca Whiley (Honours Thesis)

S.A. MacDougall-Shackleton CV

- 2017-18: Nanxi Huang (Honours Thesis)  
Shenghan Wang (Honours Thesis)  
William Staples (Honours Thesis)  
AnnMarie Fernando (Honours Thesis)  
Songyi Yuan (Honours Thesis)  
Emma Churchman (Honours Thesis)
- 2016-17: Rachel Boyd (Independent Study)
- 2015-16: John Nowack (Honours Thesis)
- 2014-15: Davide de Francesco (Honours Thesis)  
Alannah Lymburner (Honours Thesis)  
Barbara Baginski (Independent Study)
- 2013-14: Brian Robertson (Independent Study)  
Cameron Wasson (Independent Study)  
Jennifer de la Chevioterre (Honours Thesis)  
Pavlina Faltynyk (Honours Thesis)  
Alice Cui (Research Assistant)
- 2012-13: Brian Robertson (Ind Study)  
Michael Hasstedt (Ind Study)  
Ira Nightingale (Honours)  
Adrienne Berchtold (Ind Study)  
Alice Cui (Research Assistant)

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**Service**

***External Service***

Editorial Service:

2008- 2018 Associate Editor: Behaviour (Brill Publishing)  
2015- current Associate Editor: Animal Behaviour (Elsevier)

Grant Review Panels

2009 NSF Animal Behavior Panel

External Grant Reviews:

Biotechnology and Biological Sciences Research Council (UK)  
Canada Foundation for Innovation  
Canadian Institutes of Health Research  
City University of New York Internal Grants Program (USA)  
National Geographic Society (USA)  
National Institutes of Health (USA)  
National Science Foundation (USA)  
Natural Sciences and Engineering Research Council (NSERC) Canada

Ad Hoc Manuscript Reviews:

Animal Behaviour, Auk, Behaviour, Behavioral Ecology, Behavioral Ecology and Sociobiology  
Biology Letters, Brain Behavior and Evolution, Brain Research, Condor, Ethology  
Evolution, General and Comparative Endocrinology, Hormones and Behavior  
Journal of Comparative Psychology, Journal of the Acoustical Society of America  
Journal of Comparative Physiology A, Journal of Neurobiology  
Journal of Neuroendocrinology, Journal of Neuroscience, Journal of Ornithology  
Learning and Motivation, PLOS (One), Proceedings of the Royal Society B: Biological Sciences  
Reproduction –Nutrition –Development, Wilson Journal of Ornithology

Other reviews and consulting:

2004: Canadian Council on Animal Care  
reviewer of Guidelines for Use of Wildlife in Research  
  
2009: American Ornithologists Union  
reviewer of Guidelines to the Use of Wild Birds in Research

Societies Memberships and Service:

Animal Behavior Society (member)  
2019-2022 (Treasurer: Animal Behavior Society)  
Canadian Association of Neuroscience (member)  
Canadian Society of Zoologists (member)  
2016 Local Organizing Committee Member for Annual Meeting  
International Society for Behavioural Ecology  
Society for Behavioral Neuroendocrinology (member)  
Society for Integrative and Comparative Biology (member)  
2004-07 (Chair: Division of Animal Behavior)  
2007-09 (Secretary: Division of Animal Behavior)  
2017-2020 (Program Officer: Division of Animal Behavior)  
Winter Animal Behavior Conference  
2010 Conference Organizer

***Internal (Department, Faculty, University) Service***

Selected Recent University and Departmental Service:

2019-20

Chair, Department of Psychology  
Director, Advanced Facility for Avian Research  
Member, Faculty of Education Decanal Selection Committee

2018-19

Chair, Department of Psychology  
Director, Advanced Facility for Avian Research  
Member, Ivey School of Business Decanal Selection Committee  
Member, Animal Research Communication Policy Committee  
Member, Neuroscience Working Group

2017-18

Chair, Department of Psychology  
Director, Advanced Facility for Avian Research  
Member, Ivey School of Business Decanal Selection Committee

2016-17

Chair, Department of Psychology  
Member, University Research Board  
Director, Advanced Facility for Avian Research  
Member, Faculty of Law Decanal Selection Committee  
University Senate, Faculty of Social Science Senator

2015-16

Acting Chair, Department of Psychology  
University Research Board  
Director, Advanced Facility for Avian Research  
Faculty of Science Decanal Selection Committee  
Vice-Provost Academic Selection Committee

2014-15

Acting Chair, Department of Psychology  
University Research Board  
Director, Advanced Facility for Avian Research

2013-14

Psychology Department Chair Selection Committee  
University Research Board  
Associate Chair – Research, Department of Psychology  
Curriculum Committee – Graduate Program in Neuroscience  
Program Committee – Graduate Program in Neuroscience  
BCN Field Director for Faculty of Social Science- Graduate Program in Neuroscience  
Associate Chair (Research) – Department of Psychology  
Director, Advanced Facility for Avian Research

2012-13

University Research Board  
Annual Performance Evaluation Committee – Department of Psychology  
Space and Facilities Committee, Department of Psychology  
Animal Care Committee, Department of Psychology  
Hellmuth Prize Selection Committee



S.A. MacDougall-Shackleton CV

Director, Advanced Facility for Avian Research

2011-12

Annual Performance Evaluation Committee – Department of Psychology  
Space and Facilities Committee, Department of Psychology  
Animal Care Committee, Department of Psychology  
Director, Advanced Facility for Avian Research

2010-11

on sabbatical

2009-10

Associate Chair – Graduate Affairs, Department of Psychology  
Director, Advanced Facility for Avian Research

2008-09

Associate Chair – Graduate Affairs, Department of Psychology  
Appointments Executive Committee, Department of Psychology  
Space and Facilities Executive Committee, Department of Psychology

2007-08

Graduate Chair, Department of Psychology  
Appointments Committee, Department of Psychology  
Space and Facilities Committee, Department of Psychology  
Assistant Dean (Research), Faculty of Social Sciences, UWO

2006-07

Graduate Awards Committee  
Graduate Program in Neuroscience: Program Committee (elected member)

2005-06

Graduate Program in Neuroscience: Program Committee (elected member)  
Animal Use Subcommittee (Department of Psychology representative)  
Department of Psychology: Workload and Resource Planning Committee  
Department of Psychology: Space and Facilities Committee  
Department of Psychology: Colloquium Series Coordinator

2004-05

Graduate Program in Neuroscience: Program Committee (elected member)  
University Council on Animal Care (Faculty of Social Sciences representative)  
Animal Use Subcommittee (Department of Psychology representative)  
Department of Psychology: Annual Performance Evaluation Committee  
Department of Psychology: Space and Facilities Committee  
Department of Psychology: Colloquium Series Coordinator