

1. Name and Professional Address.

Garth Michael Spellman
 Curator of Ornithology
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Rank.

Curator

Education.

Ph.D. University of Nevada, Las Vegas, Las Vegas, NV. 2006. Biological Sciences.
 M. S. University of Alaska Fairbanks, Fairbanks, AK. 2000. Zoology.
 B. A. Carleton College, Northfield, MN. 1996. Biology.

Professional Experience.

Curator of Ornithology, Department of Zoology, Denver Museum of Nature and Science. 2015-present.

Affiliated Faculty and Graduate Faculty, Department of Integrative Biology, University of Colorado Denver. 2015-present.

Program Director, Evolutionary Processes Cluster, Division of Environmental Biology, Biological Sciences Directorate, National Science Foundation. 2013 – 2015.

Associate Professor, Black Hills State University, School of Natural Sciences. 2012 – 2015.

Program Director, Master's of Science in Integrative Genomics, Black Hills State University. 2009 – 2013.

Assistant Professor, Black Hills State University, Department of Biology. 2008 – 2012.

Research Assistant Professor, Black Hills State University, Department of Biology, Center for the Conservation of Biological Resources. 2006 – 2008.

Research Associate, Marjorie Barrick Museum of Natural History, University of Nevada, Las Vegas. 2006 – 2012.

Visiting researcher, Dr. Scott V. Edwards' lab, Museum of Comparative Zoology, Harvard University. 2007 (April).

DNA Laboratory Manager and Genetic Resources Collections Manager, Marjorie Barrick Museum of Natural History, University of Nevada, Las Vegas. 2001 – 2006.

Instructor, Department of Biological Sciences, University of Nevada, Las Vegas. 2004.

Graduate Teaching Assistant, Department of Biological Sciences, University of Nevada, Las Vegas. 2000.

Graduate Research Assistant, University of Alaska Museum. 1999 – 2000.

Graduate Teaching Assistant, Department of Biology, University of Alaska, Fairbanks. 1998 – 1999.

2. Research, Scholarly, and Creative Activities.

Google Scholar h index = 16. Multi-author Annotation: U= undergraduate mentee, G = graduate student mentee and * = senior author.

a. Articles in Refereed Journals.

- E. Linck, K. Epperly, P. van Els, **G.M. Spellman**, R.W. Bryson Jr., J.E. McCormack, R. Canales-del-Castillo, J. Klicka. In Press. Dense geographic and genomic sampling reveals paraphyly and cryptic lineages in a classic sibling species complex. *Systematic Biology*.
- S.P. Slowinski, A.M. Fudickar, A.M. Hughes, R.D. Mettler, O.V. Gorbatenko, **G.M. Spellman**, E.D. Ketterson, J.W. Atwell. 2018. Sedentary songbirds maintain higher prevalence of haemosporidian parasite infections than migratory conspecifics during seasonal sympatry. *PLoS ONE* **13**(8): e0201563. <https://doi.org/10.1371/journal.pone.0201563>
- N. Najar, L. Benedict, A. Doll, **G.M. Spellman**. 2017. Highlighting the use of museum collections in avian research. *The Auk: Ornithological Advances and The Condor: Ornithological Applications*. Joint Special Collection. http://americanornithologypubs.org/page/museum_collections.
- C.M. Bubac^G and **G.M. Spellman***. 2016. How connectivity shapes genetic structure during range expansion: insights from Virginia's Warbler. *The Auk: Ornithological Advances*.
- J.D. Manthey, J. Klicka, and **G.M. Spellman***. 2015. Chromosomal patterns of diversity and differentiation in creepers: a next-gen phylogeographic investigation of *Certhia Americana*. *Heredity* **115**, 165-172. doi:10.1038/hdy.2015.27
- P. Van Els, **G.M. Spellman**, B.T. Smith, and J. Klicka. 2014. Extensive gene flow characterizes the phylogeography of a widespread North American migrant bird: Black-headed Grosbeak (*Pheucticus melanocephalus*). *Molecular Phylogenetics and Evolution*. **78**: 148-159. <http://dx.doi.org/10.1016/j.ympev.2014.04.028>
- J.D. Manthey^G, J. Klicka, and **G.M. Spellman***. 2014. Effects of climate change on the evolution of Brown Creeper (*Certhia americana*) lineages. *The Auk: Ornithological Advances*. **131**(3): 559-570. <http://dx.doi.org/10.1642/AUK-13-242.1>
- J.D. Manthey^G and **G.M. Spellman***. 2014. Increased efficacy of fixation in Z-linked markers between lineages of the Brown Creeper (*Certhia americana*): the fast-Z effect? *Journal of Avian Biology*. **45**(2): 149-156. doi: 10.1111/j.1600-048X.2013.00233.x
- P.C. Pulgarín-R^U, B.T. Smith, R.W. Bryson, Jr., **G.M. Spellman***, and J. Klicka*. 2013. Multilocus phylogeny and biogeography of the New World *Pheucticus* grosbeaks (Aves: Cardinalidae). *Molecular Phylogenetics and Evolution*. **69**: 1222-1227. <http://dx.doi.org/10.1016/j.ympev.2013.05.022>.
- J.D. Manthey^G, J. Klicka, and **G.M. Spellman***. 2012. Is gene flow promoting the reversal of Pleistocene divergence in the Mountain Chickadee (*Poecile gambeli*)? *PLoS ONE* **7**(11): e49218.
- V.W. Walstrom^G, J. Klicka, and **G.M. Spellman***. 2012. Speciation in the White-breasted Nuthatch (*Sitta carolinensis*): a multilocus prospective. *Molecular Ecology*. **21**:907-920.
- J.D. Manthey^G, J. Klicka, and **G.M. Spellman***. 2011. Isolation driven divergence: speciation in a widespread North American songbird (Aves: Certhiidae). *Molecular Ecology*. **20**:4371–4384.
- J. Klicka, **G.M. Spellman**, K.S. Winker, V. Chua, and B.T. Smith. 2011. Phylogeography and population-genetic analysis of a widespread, sedentary North American bird: The Hairy Woodpecker (*Picoides villosus*). *The AUK* **128**(2):346–362.

- J.D. Manthey^G, J. Klicka, and **G.M. Spellman***. 2011. Cryptic diversity in a widespread North American songbird: phylogeography of the Brown Creeper (*Certhia americana*). *Molecular Phylogenetics and Evolution*. **58**, 502-512.
- J. J. Stone, S. A. Clay, **G.M. Spellman**. 2010. Tylosin and chlortetracycline effects during swine manure digestion: influence of sodium azide. *Bioresource Technology*. **101**, 9515–9520. doi:10.1016/j.biortech.2010.07.116
- R. Mettler^{UG} and **G.M. Spellman***. 2009. A hybrid zone revisited: molecular analysis of the maintenance, movement, and evolution of a Great Plains avian (Cardinalidae: *Pheucticus*) hybrid zone. *Molecular Ecology*. **18**, 3256-3267. DOI: 10.1111/j.1365-294X.2009.04217.x
- J. M. DaCosta, **G.M. Spellman**, P. Escalante-Pliego, and J. Klicka. 2009. A molecular systematic revision of two historically problematic songbird clades: *Aimophila* and *Pipilo*. *Journal of Avian Biology*. **40**, 206-216.
- J. J. Stone, S. A. Clay, Z. Zhu, K. Wong, L. Porath, **G.M. Spellman**. 2009. Effect of Antimicrobial Compounds Tylosin and Chlorotetracycline during Batch Anaerobic Swine Manure Digestion. *Water Research* **43**, 4740-4750.
- G.M. Spellman***, A. Cibois, R. Moyle, K. Winker, and F.K. Barker. 2008. Clarifying the systematics of an enigmatic avian lineage: What is a Bombycillid?. *Molecular Phylogenetics and Evolution*. **49**, 1036-1040.
- C.M. Anderson, **G.M. Spellman**, C. Ferrell, K. Strickler, and S.K. Sarver. 2008. Conservation genetics of American Dipper (*Cinclus mexicanus*): the genetic status of a population in severe decline. *Conservation Genetics*. **9**, 939-944. DOI 10.1007/s10592-007-9429-5
- A. Maj, **G.M. Spellman**, and S.K. Sarver. 2008. The complete CDS of the prion protein (PRNP) gene of the African lion (*Panthera leo*). *Virus Genes*. **36**, 433-434.
- G.M. Spellman** and J. Klicka. 2007. Phylogeography of the White-breasted Nuthatch (*Sitta carolinensis*): diversification in North American pine and oak woodlands. *Molecular Ecology* **16**(8), 1729-1740.
- G.M. Spellman**, B. Riddle, and J. Klicka. 2007. Phylogeography of the Mountain Chickadee (*Poecile gambeli*): diversification, introgression, and expansion in response to Quaternary climate change. *Molecular Ecology*, **16**, 1055-1068.
- G.M. Spellman** and J. Klicka. 2006. Testing hypotheses of Pleistocene population history using coalescent simulations: phylogeography of the pygmy nuthatch (*Sitta pygmaea*). *Proceedings of the Royal Society Series B*. **273**, 3057-3063.
- J. Klicka, K. Burns, and **G.M. Spellman**. 2007. Defining a monophyletic Cardinalini: A molecular perspective. *Molecular Phylogenetics and Evolution* **45**, 1014-1032.
- J.M. DaCosta, **G.M. Spellman**, and J. Klicka. 2007. Bilateral Gynandromorphy in a White-ruffed Manakin (*Corapipo altera*). *The Wilson Journal of Ornithology*. **119**, 290-292.
- J. Klicka and **G. M. Spellman**. 2007. A molecular evaluation of the North American “grassland” sparrow clade. *The AUK* **124**, 537-551.
- J. Klicka, G. Voelker, and **G.M. Spellman**. 2005. A systematic revision of the true thrushes (Aves: Turdinae). *Molecular Phylogenetics and Evolution* **34**, 486-500.
- G. Voelker and **G.M. Spellman**. 2004. Nuclear and mitochondrial DNA evidence of polyphyly in the avian superfamily Muscicapoidea. *Molecular Phylogenetics and Evolution* **30**(2), 386-394.

b. Monographs, Reports, and Extension Publications.

- G.M. Spellman.** 2019. Book Review: The Extended Specimen: Emerging Frontiers in Collections-based Ornithology. *The Auk: Ornithological Advances*. DOI: 10.1093/auk/ukz024
- G.M. Spellman.** 2018. Brown-capped Rosy-Finch data needed: You can help. *Lark Bunting*(March):9.
- G.M. Spellman.** 2017. The Nature of Biomimicry. *Catalyst*, p. 8-9.
- J.D. Manthey, K. Burns, and **G.M. Spellman.** 2017. Split the Brown Creeper into two species. Report and proposal to the American Ornithologist Society Taxonomic Board. 14 page report.
- G.M. Spellman** and C. Hundertmark. 2017. Do you know your Nuthatch and Vireo subspecies? *Lark Bunting (DFO)*, March, pg. 9.
- G.M. Spellman.** 2016. Museum Treasures: San Benedicto Island Rock Wren. *Catalyst (DMNS Quarterly Magazine)*. Spring, pg. 8-9.
- G.M. Spellman.** 2010. Are subspecies still of interest to Ornithology today? *South Dakota Bird Notes* **62(2)**, 25-26.
- C. Cicero, T. Jervis, and **G.M. Spellman.** 2010. Split Mountain Chickadee (*Poecile gambeli*) into two species. Report reviewed by the American Ornithologists Union taxonomic review board.
- G.M. Spellman.** 2006. Comparative phylogeography of pine-oak birds. Dissertation. University of Nevada, Las Vegas.

c. Talks, Abstracts and Other Professional Papers Presented.

i. Invited Talks.

- 2018 Western Colorado University, Gunnison, CO.
- 2018 Denver Field Ornithologists, Denver, CO.
- 2017 Evolution Symposium, University of Colorado, Anschutz Biomedical Campus.
- 2016 Department of Integrative Biology, University of Colorado Denver, Denver, CO.
- 2016 Denver Field Ornithologists, Denver, CO.
- 2015 Denver Museum of Nature and Science, Denver, CO.
- 2014 NSF Division of Integrative Organismal Systems, Arlington, VA.
- 2013 American Museum of Natural History, New York, NY.
- 2012 NSF Division of Environmental Biology, Arlington, VA.
- 2012 Department of Biology, Augustana College, Sioux Falls, SD.
- 2011 Institute of Agricultural and Natural Resources, University of Nebraska Lincoln, Lincoln, NE.
- 2011 Department of Biology, Concordia College, Moorhead, MN.
- 2011 Department of Biology, University of South Dakota, Vermillion, SD.
- 2009 Black Hills State University Lunch Lecture Series, Spearfish, SD.
- 2008 Department of Physiology and Zoology, University of Wyoming, Laramie, WY.
- 2007 Black Hills State University, Spearfish, SD.
- 2007 Museum of Comparative Zoology, Harvard University, Cambridge, MA.
- 2006 Black Hills State University, Spearfish, SD.
- 2005 American Museum of Natural History Ornithology lecture series, New York, NY.

ii. Presented Papers and Posters.

2018

- T.L. George, E.S. Zavaleta, R. VanBuskirk, and G. M. Spellman. Movements and demography of the Brown-capped Rosy-Finch. Partners in Flight, Western Branch meeting, Salem, OR.
- E.R. Funk, **G.M. Spellman**, K. Winker, J.J. Withrow, K. Solari, K.C. Ruegg, E.S. Zavaleta, S.A. Taylor. Genomic variation in the rosy-finch (*Leucosticte* spp.) species complex. Greater Rockies Evolutionary Biology and Ecology meeting, Rocky Mountain Biological Station.
- E.R. Funk, **G.M. Spellman**, K. Winker, J.J. Withrow, K. Solari, K.C. Ruegg, E.S. Zavaleta, S.A. Taylor. Genomic characterization of the rosy-finch (*Leucosticte* spp.) species complex. American Ornithologists Society, Annual Meeting, Tucson, AZ.
- T.L. George, E.S. Zavaleta, R. VanBuskirk, and G. M. Spellman. Movements and demography of the Brown-capped Rosy-Finch. American Ornithologists Society, Annual Meeting, Tucson, AZ and Partners in Flight, Science Symposium, Fort Collins, Colorado.
- G.M. Spellman**, N. Najjar, J. McCollough, M. Andersen, and L. Benedict. Origin and evolution of the extinct San Benedicto Island Rock Wren (*Salpinctes obsoletus exsul*) revealed by phylogeographic analysis of genome-wide variation. American Ornithologists Society, Annual Meeting, Tucson, AZ.
- N.A. Najjar, **G.M. Spellman**, and L. Benedict. Latitude predicts repertoire size in migratory, but not sedentary, rock wrens (*Salpinctes obsoletus*). American Ornithologists Society, Annual Meeting, Tucson, AZ.

2017

- B. Blais, B. Smith and **G.M. Spellman**. Phylogeography of the Smooth Greensnake: divergent lineages and introgression discovered through comparative genomics. 50th Annual Joint Meeting of the Arizona/New Mexico Chapters of the Wildlife Society and American Fisheries Society.
- S. Slowinski, **G.M. Spellman** and E. Ketterson. Sedentary dark-eyed juncos (*Junco hyemalis*) maintain higher prevalence of haemosporidian infections than migratory juncos during seasonal sympatry. Animal Behavior Conference, Indiana University.

2016

- G.M. Spellman**. 2016. Geographic variation in the shabbily dressed trumpeter: better known as the Rock Wren. North American Ornithological Conference. Washington, DC.
- K. Han, J. Cox, **G.M. Spellman**, R. Kimball. 2016 Are nuthatches good at dispersing? North American Ornithological Conference. Washington, DC.

2014

- Kin Han, **G.M. Spellman**, and Rebecca Kimball. A bird's eye view of habitat fragmentation: comparing the effects at ecological and evolutionary timescales in two sister species. Evolution 2014, Raleigh, NC.
- Raeann Mettler, John Klicka, and **G.M. Spellman***. RADTag sequencing to study phylogenetic relationships and diversification within the House Wren (*Troglodytes aedon*) complex. Evolution 2014, Raleigh, NC.

2013

Christine Bubac^G and **G.M. Spellman***. How habitat connectivity shapes genetic structure during range expansion: insights from Virginia's Warbler in the Black Hills. One Hundred and Thirty-first Stated Meeting of the American Ornithologists' Union, Chicago, IL.

Joseph D. Manthey and **G.M. Spellman***. A genomic perspective on the phylogeography of the Brown Creeper. One Hundred and Thirty-first Stated Meeting of the American Ornithologists' Union, Chicago, IL.

Lindsey Kreun^G, Joseph D. Manthey, John Klicka, and **G.M. Spellman***. Comparative genomics of Pleistocene divergence. One Hundred and Thirty-first Stated Meeting of the American Ornithologists' Union, Chicago, IL.

2012

G.M. Spellman*, Amanda Howe, Kyle Kennedy^G, Joseph McAllister, Jason Nies, Jordan, Sheets^G. Insights into the shared evolutionary history of birds and their gut microbiota. Fifth North American Ornithological Congress, Vancouver, BC.

Christine Bubac^G and **G.M. Spellman***. How habitat connectivity shapes genetic structure during range expansion: insights from Virginia's Warbler in the Black Hills. Fifth North American Ornithological Congress, Vancouver, BC and South Dakota Ornithologists Fall Meeting.

Kelsey Prosser^G and **G.M. Spellman***. Molecular characterization of avian gut parasites (Eimeria). Fifth North American Ornithological Congress, Vancouver, BC and South Dakota Ornithologists Fall Meeting.

Kyle Kennedy^G and **G.M. Spellman***. Examining the modes of selection maintaining the Pheucticus Great Plains hybrid zone using genomic cline analysis of AFLP data. Fifth North American Ornithological Congress, Vancouver, BC and South Dakota Ornithologists Fall Meeting.

Kyle Kennedy^G and **G.M. Spellman***. Estimating Hybrid Zone Origins using Ecological Niche Models. Fifth North American Ornithological Congress, Vancouver, BC.

Joseph Manthey^G, Scott V. Edwards, John Klicka, **G.M. Spellman***. Ecological selection or environmental drift in western North American phylo-species? Fifth North American Ornithological Congress, Vancouver, BC.

Brian Byrne^U, Kelsey Prosser^G, **G.M. Spellman***. Survey of Avian Gut Borne Parasites: Insights into Codiversification and Diversity. 2012 South Dakota Biomedical Research Infrastructure Network Annual meeting.

Heather Weisser^U and **G.M. Spellman***. West Nile Virus in House Wren nestlings. 2012 South Dakota Biomedical Research Infrastructure Network Annual meeting.

G.M. Spellman*. Describing the influences of host natural history and phylogeny on the bird gut microbiome. 2012 South Dakota Biomedical Research Infrastructure Network Annual meeting.

2011

Van Els, P.; B.T. Smith; **G.M. Spellman***; J Klicka, A multilocus phylogeography of the Black-Headed Grosbeak. 129th Stated Meeting of the American Ornithologists' Union, Jacksonville, FL.

Joseph Manthey^G & **G.M. Spellman***. The fast-Z effect: increased efficacy of fixation in Z-linked markers in *Certhia americana*. Evolution 2011. Norman, OK.

Justin Tibbitts^U, Joseph Manthey^G, Christine Bubac^U, J. Klicka, **G.M. Spellman***. Testing alternative hypotheses of niche evolution in the Hairy Woodpecker. *Evolution* 2011, Norman, OK.

2010

G.M. Spellman*, Daniel Turveen^U, Pankaj Mehrotra^G, Chirstine Bergeon Burns, and Ellen Ketterson. Malaria in the Black Hills: pathogen mediated selection in the White-winged Junco. *Evolution* 2010, Portland, OR.

Joseph Manthey^G and **G.M. Spellman***. Asymmetric gene flow following secondary contact in the Mountain Chickadee. *Evolution* 2010, Portland, OR.

John Duvall-Jisha^G and **G.M. Spellman***. Polygyny and population structure in the ant *Camponotus modoc*. *Evolution* 2010, Portland, OR.

Laura Kramer*, J Klicka, **G.M. Spellman***. A multilocus study of demographic and evolutionary history in the Black-headed Grosbeak (*Pheucticus melanocephalus*). *Evolution* 2010, Portland, OR.

V. Woody Walstrom^G and **G.M. Spellman***. Speciation in the White-breasted Nuthatch. Joint meeting of Cooper Ornithological Society, American Ornithologists' Union, and Society of Canadian Ornithologists / Société des Ornithologistes du Canada. San Diego, CA.

Joseph Manthey^G and **G.M. Spellman***. Multilocus phylogeography of the Brown Creeper. Joint meeting of Cooper Ornithological Society, American Ornithologists' Union, and Society of Canadian Ornithologists / Société des Ornithologistes du Canada. San Diego, CA.

Vivien Chua, B.T. Smith, **G.M. Spellman**, K. Winker, and J. Klicka. Phylogeography of a widespread North American woodpecker: *Picoides villosus*. Joint meeting of Cooper Ornithological Society, American Ornithologists' Union, and Society of Canadian Ornithologists / Société des Ornithologistes du Canada. San Diego, CA.

G.M. Spellman*, K. Burns, S. Cameron, J. Hudon, and J. Klicka. Glacial isolation and postglacial expansion enhance genetic diversity in a Neotropical migrant passerine. 128th Stated meeting of the American Ornithologists' Union, San Diego, CA.

2009

G.M. Spellman* and Raeann Mettler^G. Grosbeak hybridization in the Great Plains: the roles of intrinsic and extrinsic selection in the narrowing of a transition zone. South Dakota Ornithologists Union Annual Meeting, Pierre, SD.

V. Woody Walstrom^G and **G.M. Spellman***. Speciation in the White-breasted Nuthatch (*Sitta carolinensis*): a multilocus study of diversification in North American pine and oak woodlands. 127th Stated Meeting of the American Ornithologists Union, Philadelphia, PA the Ecological Genomics Symposium 2009 Kansas City, KS.

Joseph Manthey^G and **G.M. Spellman***. Complex speciation history in the Brown Creeper inferred from multilocus sequence data. 127th Stated Meeting of the American Ornithologists Union, Philadelphia, PA and the Ecological Genomics Symposium 2009 Kansas City, KS.

Laura Kramer^U and **G.M. Spellman***. Comparison of the evolutionary rates of anonymous and intron loci for the usefulness in avian evolutionary biology. South Dakota Academy of Sciences.

Daniel Turveen^U, Pankaj Mehrotra^G, Chirstine Bergeon Burns, Ellen Ketterson, and **G.M. Spellman***. Malarial Parasites in the Endemic White-winged Junco: the impacts of seasonality, sex, and body condition on infection rates. NIH-INBRE Summer Research Fellow Convocation, Vermillion, South Dakota.

2008

- G.M. Spellman** and J. Klicka. Speciation in a western (US) woodland songbird (Bushtit, *Psaltriparus minimus*): comparing patterns and process inferred from mtDNA and 19 anonymous nuclear loci. *Evolution* 2008, University of Minnesota.
- R. Mettler^G and **G.M. Spellman***. A hybrid zone revisited: molecular analysis of the maintenance, movement, and evolution of a Great Plains avian (Cardinalidae: Pheucticus) hybrid zone. *Evolution* 2008, University of Minnesota.
- M. Mika, **G.M. Spellman**, P. Escalante-Pliego, J. Klicka. Phylogeography and diversification in the red-eyed towhee species complex. 126th Stated meeting of the American Ornithologist Union, Portland, Oregon.
- C. Cicero, M. Koo, **G.M. Spellman**, K. Winker, J. Klicka. Linking phylogeography and distributional ecology. 126th Stated meeting of the American Ornithologist Union, Portland, Oregon.
- L. Kramer^U and **G.M. Spellman***. Multilocus comparative phylogeography of the Black-headed Grosbeak. Undergraduate research Day, Pierre, SD and NCUR, Salisbury University, MD.
- J. Moser^U and **G.M. Spellman***. Evolution of opsin genes in the Cardinalidae. NIH-INBRE Summer Research Fellow Convocation, Vermillion, South Dakota.

2007

- G.M. Spellman*** and J. Klicka. Speciation in North American Certhiid(s): Is the Brown Creeper a single morphologically diverse species? 125th Stated Meeting of the American Ornithologists' Union, Laramie, Wyoming.
- J. Moser^U and **G.M. Spellman***. Evolution of avian malarial parasites in geographically structured host species: a phylogenetic approach. 125th Stated Meeting of the American Ornithologists' Union, Annual Meeting, Laramie, Wyoming; NIH-INBRE Summer Research Fellow Convocation, Vermillion, South Dakota; *Evolution* 2008, University of Minnesota.
- G. M. Spellman***, C. Cicero, K. Winker, and J. Klicka. Clarifying the evolutionary history of a morphologically diverse species: Phylogeography of the Steller's Jay. 125th Stated Meeting of the American Ornithologists' Union, Laramie, Wyoming.
- J. Moser^U, J. Klicka, **G.M. Spellman***. Phylogeography of the Bushtit (*Psaltriparus minimus*). 125th Stated Meeting of the American Ornithologists' Union, Laramie, Wyoming and BHSU Undergraduate Research symposium.
- R.D. Mettler^G and **G.M. Spellman***. Molecular analysis of Grosbeak (Cardinalidae: Pheucticus) hybridization in South Dakota. 125th Stated Meeting of the American Ornithologists' Union. Laramie, WY.
- R.D. Mettler^G and **G.M. Spellman***. Molecular analysis of Grosbeak (Cardinalidae: Pheucticus) hybridization in South Dakota. ConGen3: The 3rd International Conservation Genetics Symposium. New York, NY.
- R.D. Mettler^G and **G. M. Spellman***. Genetic characterization of an avian hybrid zone (Pheucticus): the importance of endogenous selection. Ecological Genomics Symposium. Kansas City, KS.
- G.M. Spellman**, R. Mettler^G, S. Sarver, J. Klicka. Cryptic genetic variation in a coniferous forest management indicator species (Aves, Certhiidae: *Certhia americana*). Evolutionary Change in Human Altered Environments, An International Summit. Institute of the Environment, University of California, Los Angeles.

- S. Sarver, **G.M. Spellman**, C. Ferrell, R. Mettler^G, C. Anderson,. Conservation genetics of the American Dipper (Cinclus mexicanus): declining population size in an impacted population in the Black Hills of South Dakota. Evolutionary Change in Human Altered Environments, An International Summit. Institute of the Environment, University of California, Los Angeles.
- J.R. Jaeger, D.F. Bradford, **G.M. Spellman**, B. Riddle. Population Structure of the Red-spotted Toad, Bufo punctatus, in a Naturally Fragmented Desert Landscape. California/Nevada Amphibian Population Task Force 2007 Annual Meeting, Las Vegas, NV.
- J.J. Stone, S. Clay, **G.M. Spellman**. Impact of antimicrobial compounds Tylosin and Chlortetracycline during swine manure treatment. Presented at the Joint Meeting of the Eastern South Dakota Water Conference and the 52nd Annual Mid-West Groundwater Conference, Sioux Falls, SD.
- J.J. Stone, S. Clay, **G.M. Spellman**. Impact of antimicrobial compounds Tylosin and Chlortetracycline during swine manure treatment. Presented at the Association of Environmental Engineering and Science Professors Bi-Annual Conference, Blacksburg, VA.
- 2000-2006**
- J. Klicka, R. Ricklefs, E. Birmingham, P. Escalante, and **G.M. Spellman**. The evolutionary history of the Troglodytes aedon complex. North American Ornithological Congress, Vera Cruz, Mexico.
- G.M. Spellman** and J. Klicka. Phylogeography of the Pygmy Nuthatch. American Ornithologists Union Annual Meeting, Santa Barbara, CA.
- J. Klicka and **G.M. Spellman**. Temperate and tropical New World sparrows (Emberizini), two separate clades? American Ornithologists Union Annual Meeting, Santa Barbara, CA.
- G.M. Spellman** and J. Klicka. Phylogeography of the Mountain Chickadee. Society for the Study of Evolution Annual Meeting, Fairbanks, AK.
- G.M. Spellman** and J. Klicka. Genetic consequences of the Late Quaternary: lessons from phylogenetic and coalescent analyses of the Mountain Chickadee (Poecile gambeli). American Ornithologists Union Annual Meeting, Quebec, Quebec and BIOS Symposium, UNLV Department of Biological Sciences.
- J. Klicka and **G.M. Spellman**. Molecular systematics of the Cardinalidae. American Ornithologists Union Annual Meeting, Quebec, Quebec.
- G.M. Spellman** and J. Klicka. Comparative phylogeography of the North American pine-oak avifauna: exploring patterns of genetic and geographic variation in eight co-distributed species. BIOS Symposium UNLV.
- G.M. Spellman** and G. Voelker. A molecular test of the superfamily Muscipoidea: a minor tear in the tapestry. American Ornithologists Union Annual Meeting, New Orleans, LA.
- G.M. Spellman** and J. Klicka. Does morphology track phylogeny in Emberizine sparrows? American Ornithologists Union Annual Meeting, Seattle, Washington and BIOS Symposium UNLV.
- G.M. Spellman**. Intercontinental colonization and molecular systematics of the avian family Bombycillidae. Cooper Ornithological Society Annual Meeting, Riverside, California.

d. Past and Current Grants and Fellowships. (Funding Source in Bold.)

- 2012 TCUP: Biology, Ecology, Conservation Genetics and Management of the Ornate Box Turtles (*Terrapene ornata ornata*) in South Dakota. **NSF 1153443** \$191,572. Spellman, Co-PI. PI Alessandra Higa at Oglala Lakota College, Kyle, SD.
- 2012 South Dakota Sustainability Initiative: building sustainable practice throughout the Missouri River watersheds of South Dakota. SD EPSCoR RII T1 Proposal Planning Grant, March 2012 to August 2012. PI: Stone, J.J., co-PIs: Clay, D. and Johnson, C. South Dakota State University; Spellman, G. and Sarver, S. Black Hills State University; Kerby, J. and Sulak, B. University of South Dakota. **SD Epscor** \$7,997.
- 2011 SNAAP: Strengthening Native American Access to the Professoriate. **NSF AGEP 1111231**. Award total \$140,879. SUBAWARD to Spellman. PI Idaho State University Extension Office.
- 2011 REU Supplement - COLLABORATIVE RESEARCH: Multilocus comparative phylogeography of North American pine and oak woodland birds. **NSF DEB1112162** \$7,500.
- 2010 REU Supplement - COLLABORATIVE RESEARCH: Multilocus comparative phylogeography of North American pine and oak woodland birds. **NSF DEB1026957** \$13,856.
- 2009 REU Supplement - COLLABORATIVE RESEARCH: Multilocus comparative phylogeography of North American pine and oak woodland birds. **NSF DEB0924306** \$18,231.
- 2008 COLLABORATIVE RESEARCH: Multilocus comparative phylogeography of North American pine and oak woodland birds. PIs: Garth M. Spellman, John Klicka (UNLV), and Scott V. Edwards (Harvard). **NSF DEB 0814841, 0815705, 0815057**. Grant total \$500,000. PI Spellman awarded \$207,229.
- 2008 Evolution of UV sensitive opsin genes in the Cardinalidae (Aves). **NIH-INBRE**, Summer Salary grant. \$4,500.
- 2007 BHSU Integrative Genomics Transition Scholarship Program, **NSF S-STEM Program**, Co-PI. **DUE-0728553** \$598,000.
- 2007 Comparative phylogeography of pine-oak birds. **NIH-INBRE**, Summer Salary grant. \$8,666.
- 2006 Phylogeography of the Bushtit (*Psaltripaurs minimus*). Faculty Research Grant. **Black Hills State University**. \$3,000.
- 2006 Phylogeography of the sky-islands of Western North America: implications of geographic and genetic variation in thirteen avian taxa. **NIH-INBRE**, Summer Salary grant. \$4,333.
- 2004 Marsha Brady Tucker Travel Award – **AOU**. AOU Annual Meeting, Quebec, Quebec.
- 2003 Comparative phylogeography of North American montane birds. Chapman Memorial Ornithological Grant. **American Museum of Natural History**. \$2,000.
- 2002 Comparative phylogeography of North American montane birds. Chapman Memorial Ornithological Grant. **American Museum of Natural History**. \$2,013.
- 2001 Phylogeography of the sky islands of western North America: implications of geographic and genetic variation in eight avian taxa. **Marjorie Barrick Museum of Natural History Foundation**. \$20,000.
- 2000 Summer research tuition award. **University of Alaska, Fairbanks**.
- 1999 Comparative Phylogeography of Aleutian Island Birds. **Angus Gavin Memorial Bird Research Grant**. \$15,000.

1999 Summer research tuition award. **University of Alaska, Fairbanks.**

i. Grant Proposal Submissions (since 2011).

National Geographic Society. High altitude and latitude species and climate change. PI: E. Funk; Co-PIs: A.S. Taylor, G.M. Spellman.

NPS: Rocky Mount National Park, Stress response to visitor use and population structure of Brown-capped Rosy Finches in Rocky Mountain National Park. PI: L. George, Co-PI G.M. Spellman. 2017

NSF DEB, Preliminary Proposal: Bottom-up effects of climate variation on high elevation alpine specialists across western North American climate and latitude gradients. PI E. Zavaleta; Co-PIs: K. Ruegg, G.M. Spellman, B. Tershy. 2017

NSF DEB, Preliminary Proposal: An integrative approach to investigating the diversity of Coccidian (*Isospora*) parasites in wild birds. PI G.M. Spellman, Co-PI O. Dolnick. 2016

NSF DIMENSIONS:COLLABORATIVE RESEARCH: Frugivory, sexual selection and diversification of manakins and their gut microbiome. G.M. Spellman one of many PIs: Chris Balakrishnan (East Carolina University), Bette Loiselle (University of Florida), W. Alice Boyle (Kansas State University), Michael Braun (Smithsonian Institute) and Emily Duval (Florida State University). Submitted April 2013. \$2,000,000.

NSF DEB Preproposal submitted January 2012 with Matt Carling as PI and G.M. Spellman and Ben Zuckerberg as co-PIs. Climate-change velocity, environmental heterogeneity and hybridization.

NSF CAREER: From the top down: Exploring the connections between host genetic diversity and gut microbial diversity and using a vertical mentorship program to broaden participation and enhance science teacher training in South Dakota. Submitted July 2011. \$681,508.

The South Dakota NASA Space Grant Research Scholars Program. Improving STEM Retention through Early Immersion in Research. PIs G.M. Spellman and Daniel Howard (Augustana College, Sioux Falls, SD). \$500,000.

The South Dakota NASA Space Grant Research Scholars Program. One teacher at a time: Improving recruitment, retention, and STEM scientific inquiry in South Dakota pre-service high school teachers. PIs G.M. Spellman and Carrie Hall (Augustana College, Sioux Falls, SD). \$500,000.

ii. Student Research Awards and Grants.

2012 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Nicole Deidrich.** \$4500.

2012 NIH-INBRE (SD) Summer Undergraduate Research Fellowship. **Heather Weisser.** \$4500.

2012 NIH-INBRE (SD) Summer Undergraduate Research Fellowship. **Brian Byrne.** \$4500.

2011 NASA-EPSCOR Graduate Stipend Award. **Joseph Manthey.** \$1750.

2010 South Dakota Ornithologists Union Graduate Scholarship. **Joseph Manthey.** \$500.

2010 Whitney Small Grant South Dakota Ornithologists Union. **Joseph Manthey.** \$500.

2010 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Jeffery Herr.** \$3800.

2009 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Jess Moser.** \$3800.

- 2009 NIH-INBRE (SD) Summer Undergraduate Research Fellowship. **Daniel Turveen**. \$3200.
- 2008 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Laura Kramer**. \$3200.
- 2008 NSF Native American and Pacific Islander Research Experience (NAPIRE) – Summer undergraduate research fellow. Organization for Tropical Studies (OTS). Andrew Elk Shoulder.
- 2008 NIH-INBRE (SD) Summer Undergraduate Research Fellowship. **Jess Moser**. \$4000.
- 2008 Nelson Summer Scholarship Research Fellow (BHSU). **Laura Kramer**. \$4000.
- 2007 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Laura Kramer**. \$3200.
- 2007 NIH-INBRE (SD) 9 Month Undergraduate Research Fellowship. **Jess Moser**. \$3200.
- 2007 American Ornithologists Union Student Membership Award. **Raeann Mettler**.
- 2007 American Ornithologists Union Student Travel Award. **Raeann Mettler**. \$250.
- 2007 NIH-INBRE Summer Undergraduate Research Fellowship. **Jess Moser**. \$4000.

e. Fellowships, Prizes, Awards, and Acknowledgments.

- 2013 Black Hills State University, Outstanding Faculty Research Award.
- 2012 Top Reviewer for Molecular Ecology.
- 2011 Elective Member of the American Ornithologists' Union.
- 2010 Faculty Fellowship, South Dakota NIH-INBRE.
- 2009 Faculty Fellowship, South Dakota NIH-INBRE.
- 2009 NSF EPSCoR Young Investigator Award. South Dakota EPSCoR Program.
- 2004 Student presentation award – BIOS Symposium. UNLV Department of Biological Sciences.

3. Teaching and Advising

a. Black Hills State University Courses.

- Biology Survey I, BIOL 101
 - 2 sections each semester (~90 students each section), Fall 2009, Fall 2011.
- Biology Survey Lab, BIOL 101L
 - 10 sections (~20 students per section), Fall 2012.
- Scientific Writing & Advanced Evolutionary Biology, BIOL 491
 - 1 course (10 students), Spring 2010.
- Population and Quantitative Genetics, BIOL 710
 - 1 course in alternating years (~10 students per course), Spring 2008, 2010, 2013.
- Genomic Techniques, BIOL 724L
 - 1 course every year (~10 students per course), Fall 2006-2012.
- Evolutionary Genomics, BIOL 735
 - 1 course every year (~10 students per course), Spring 2007-2013.
- Evolution, BIOL 371
 - 1 course in alternating years (~25 students per course), Spring 2009, 2011.
- Evolution Lab, BIOL 371L

- 1 course in alternating years (~25 students per course), Spring 2009, 2011.
- Ornithology with lab, BIOL 492
 - Course started at BHSU in 2012 (24 students).
- Climate Change and Biodiversity, SCI 592
 - 1 course (20 students), Summer 2011.

i. Teaching at other institutions.

a. University of Nevada, Las Vegas

- Phylogenetic Inference, BIOL 799. Fall 2005. (15 students)
- Ornithology, Guest Lecturer and Teaching Assistant, BIOL 433. Fall 2000 (26 students).

b. University of Alaska, Fairbanks

- Ornithology, Teaching Assistant, BIOL 426. Spring 1999. (25 students)
- Fundamentals of Biology, Teaching Assistant, BIOL 105. Fall 1998. (2 sections ~25 students each section.)

b. Course and Curriculum Development.

All course development for graduate level courses at BHSU and UNLV were new designs for the University. Ornithology was also a newly approved course for BHSU.

Served on the working group that designed the course curriculum for the new Masters of Science in Sustainability at BHSU.

Designed the course Climate Change and Biodiversity, SCI 592 at BHSU. This was a course offered to high school science teachers seeking Masters degrees and helped the teachers design educational modules focusing on climate change.

c. Advising (Research Direction).

i. Graduate

Catherine Geisik (2013-) Population genomics of the Hairy Woodpecker.

Lindsey Kreun (2012-) Genomic architecture of phylomespecies: assessing the impact of genetic drift versus ecological selection.

Christine Bubac (2011-2014) Population genetics of Virginia's Warbler.

Kelsey Prosser (2011-2014) Co-diversification of birds and their gut microbiota.

Kyle Kennedy (2010-2012) The role of selection in the maintenance of a Great Plains avian hybrid zone.

Jordan Sheets (2010-2012) Malaria and MHC: pathogen mediated selection in a North American songbird. PhD candidate at Sanford School of Medicine, Department of Basic Biomedical Sciences.

John Duvall Jisha (2009-2011) Landscape genetics and ecology of facultatively polygynous colonies of carpenter ants (*Camponotus modoc*). Currently a Research Technician at BIOO Scientific, Austin, TX.

Joseph Manthey (2009-2011) Complex speciation history in the Brown Creeper inferred from multilocus sequence data. Currently a PhD candidate at the University of Kansas.

Pankaj Mehrotra (2008-2010) Malarial Parasites in the Endemic White-winged Junco: the impacts of seasonality, sex, and body condition on infection rates. Currently a PhD Candidate at the University of Aberdeen, Scotland.

V. Woody Walstrom (2008-2010) Speciation in the White-breasted Nuthatch (*Sitta carolinensis*): a multilocus study of diversification in North American pine and oak woodlands. Currently a PhD Candidate at Mississippi State University.

Raeann Mettler (2006-2008) Molecular analysis of Grosbeak (Cardinalidae: *Pheucticus*) hybridization in the Great Plains. Currently a Post-doctoral Associate at Black Hills State University.

ii. Undergraduate

Nicole Deidrich (Academic year 2012-2013) Morphological and molecular characterization of avian *Eimeria* parasites. NIH-INBRE Undergraduate Research Fellow.

Heather Weisser (Spring and Summer 2012) Epidemiology of West Nile Virus in experimental House Wrens. NIH-INBRE Undergraduate Research Fellow. Currently a Masters student at the University of Manitoba.

Brian Byrne (Spring and Summer 2012) Morphological and molecular characterization of avian gut parasites. NIH-INBRE Undergraduate Research Fellow. Currently an undergraduate Biology major at BHSU.

Jeffery Herr (Academic year 2010-2011) Malaria and MHC: pathogen mediated selection in the Dark-eyed Junco. NIH-INBRE Undergraduate Research Fellow.

Justin Tibbits (Summer 2010-11) Multilocus comparative phylogeography of North American pine and oak woodland birds. REU Student.

Daniel Turveen (Summer 2009 & Summer 2010) Roles of hormone induced immune suppression and seasonality in Malarial infection rates of the Black Hills Dark-Eyed Junco. NIH-INBRE Undergraduate Research Fellow. Currently a Medical School student at Sanford School of Medicine, Vermillion, SD.

Jordan Sheets (Summer 2009) Multilocus comparative phylogeography of North American pine and oak woodland birds. PhD candidate at Sanford School of Medicine, Department of Basic Biomedical Sciences.

Jenna Eddy (Summer 2009) Multilocus comparative phylogeography of North American pine and oak woodland birds. REU Student. Currently a Masters of Biotechnology student at Colorado State University.

Andrew Elk Shoulder (2008) Multilocus comparative phylogeography of North American pine and oak woodland birds.

Ronald Scott (2008-2009) Multilocus comparative phylogeography of North American pine and oak woodland birds.

Laura Kramer (2007-2009) Multilocus phylogeography of the Black-headed Grosbeak (*Pheucticus melanocephalus*); Multilocus comparative phylogeography of North American pine and oak woodland birds. REU Student. Currently an administrative assistant at the Center for the Conservation of Biological Resources, BHSU, Spearfish, SD.

Jess Moser (2006-2008) Phylogeography of the Bushtit (*Psaltriparus minimus*) and Evolution of avian malarial parasites in geographically structured host species: a phylogenetic approach; Multilocus comparative phylogeography of North American pine and oak woodland birds. REU Student. Currently in Optometry student at the Illinois Institute of Optometry.

Jennifer Jensen (2007) Phylogeography of the Western Tanager (*Piranga ludoviciana*). Currently a nurse in Rapid City, SD.

iii. Interns

Xavier Williams (2016, 2017) Teen Science Scholar, Denver Museum of Nature and Science.

Sarah Dorantes (2017) Teen Science Scholar, Denver Museum of Nature and Science.

Faith Herrera (2017) Teen Science Scholar, Denver Museum of Nature and Science.

Anny Salas (2017) Teen Science Scholar, Denver Museum of Nature and Science.

Shaela Burkert (2016) Teen Science Scholar, Denver Museum of Nature and Science.

Claudia DiMartini (2016) Teen Science Scholar, Denver Museum of Nature and Science.

4. Service.

a. Professional.

i. **Associate Editor:** The Auk: Ornithological Advances (2016-)

ii. **Journal Review:** (I conduct ~10 reviews annually and have reviewed for these journals in the last 5 years) Evolution and Ecology, The Auk, The Condor, Current Biology, Evolution, Ibis, Journal of Avian Biology, Journal of Biogeography, Molecular Phylogenetics and Evolution, Proceedings of the Royal Society, Series B, Molecular Ecology, Molecular Ecology Resources, BMC Genetics, PLOS One.

iii. **Granting Agency Review:** NSF DDIG Program, NSF Population Biology and Systematics Program, NSF Environmental Genomics Program, NSF CAREER Program, NSF Population and Evolutionary Processes Program, NSF Dimensions of Biodiversity Program, National Geographic Society.

iv. **Panel Participation:** NSF Division of Environmental Biology (4 panels). Evolutionary Processes Cluster: full proposal panel (x2), pre-proposal panel and DDIG panel.

v. **Memberships held in Professional Organizations.**

American Ornithologists Union

South Dakota Ornithologists Union

Cooper Ornithological Society

International Biogeography Society

Society of Field Ornithologists

Society for the Study of Evolution

b. Campus.**i. Departmental.**

BHSU Systematic Botanist Search, Committee Chair (2009)
 Integrative Genomics Graduate Operations Committee (2007-2013)
 BHSU Science Seminar Series, Committee Chair (2006-2013)
 BHSU NSF S-STEM Integrative Genomics scholarship program, Chair (2008-2013)
 BHSU, Integrative Genomics, Program Director (2009-2013)
 Employee Search Committee Member
 BHSU Research Associate I (2008)
 BHSU Research Associate II (2008)

ii. College.

Graduate Curriculum Committee (2007-2013)
 Public Relations Committee (2011-2013)
 Steering Committee for the Masters of Science in Sustainability (2011-2013)
 Judge BHSU Research Symposium (2007-2013)

iii. University.

Graduate Council (2009-2013)
 Faculty Senate (2009-2010)
 Dean of Educational Outreach and Graduate Programs Search Committee member (2012-2013)
 Elected to the University Promotion and Tenure Committee (2012-2013)
 BHSU Faculty Representative to the Board of Regents Research Committee (2012)
 IRB and IACUC Committee Member (2010-2013)
 BHSU Soccer Club Faculty Representative (2007-2013)

c. Community Service.

Science Fair Volunteer, Teller Elementary, 2016-
 Judge, Spearfish Middle School Science Fair, 2007-2013
 Guest Lecture, Children First Kindergarten, Spearfish, SD 2007-2013
 Guest Speaker, Black Hills Birding Club and Audubon Society, 2010-2013
 Guest Speaker, Black Hills Parrot Center, 2012-2013
 Exhibitor, Spearfish Friday Nights Downtown, Spearfish, SD 2012-2013
 Coordinator of Nerd Nite Spearfish 2012-2013
 Career Day, NSF Science Careers Day, Dulles Mall, Dulles, VA, 2013
 Facilitator, International Funding Agency Symposium, Arlington, VA, 2014
 Volunteer and Judge, Glebe Elementary School Science Fair, Arlington, VA, 2014

5. Collaborators and Mentors.

Anderson, Cynthia Black Hills State University

Barker, F. Keith	University of Minnesota
Balakrishnan, Chris	Eastern Carolina University
Bergeon Burns, Christy	Louisiana State University
Bryson, Robert	University of Washington
Burns, Kevin	San Diego State University
Carling, Matt	University of Wyoming
Cicero, Carla	University of California, Berkeley
DaCosta, Jeffery	Boston University
Dor, Roi	University of Colorado
Edwards, Scott V.	Harvard University
Escalante, Patricia	Universidad Nacional Autonoma de Mexico
Ferree, Elise	Claremont Colleges
Higa, Allesandra	Oglala Lakota College
Ketterson, Ellen	Indiana University
Klicka, John	University of Washington
Manthey, Joseph	University of Kansas
Miller, Matthew	Smithsonian Tropical Research Institute
Moyle, Robert	University of Kansas
Riddle, Brett	University of Nevada, Las Vegas
Sarver, Shane	Black Hills State University
Smith, Brian Tilston	Louisiana State University
Stone, James	SD School of Mines and Technology
Thompson, Charles	Illinois State University
Townsend, Andrea	University of California, Davis
Walstrom, Woody	Mississippi State University
Winker, Kevin	University of Alaska Fairbanks
Zuckerburg, Ben	University of Wisconsin, Madison

6. Administrative Experience.

Program Director – Evolutionary Processes Cluster in the Division of Environmental Biology, National Science Foundation. Maintain a dynamic, high quality and effective merit review system. Serve as an ongoing advisor to applicants and grantees concerning NSF policies and program objectives. Promote and support excellent science ethics. Participate in outreach visits and educational activities designed to broaden participation in NSF activities.

Master's of Integrative Genomics Program Director. Duties include recruitment and monitoring of enrolled student progress, serving as an active member on the university Graduate Council, chair of the Graduate Progress Committee, and fund raising and grant writing to sustain the nascent master's program. 2009-2013.

Chair of NSF-STEM Graduate and Undergraduate Scholars Program. Duties include organization and execution of activities focusing on the recruitment and retention of promising Biology majors from underrepresented groups, especially Native American students, at BHSU. 2007-2013.

7. Field Experience.

- Denver Museum of Nature and Science. Curator. Continued maintenance and growth of the ornithology collection. Fieldwork in western North America. 2016-.
- Black Hills State University. Associate, Assistant Professor and Research Assistant Professor. Organization and funding of a rigorous research program integrating modern molecular techniques to address many questions in avian evolutionary biology and molecular ecology. Started the Black Hills State University Ornithological Collection. 2006-present.
- Barrick Museum of Natural History and University of Nevada – Las Vegas. DNA Lab Manager, Genetic Resources Collections Manager, Collections Assistant, and PhD Candidate. Organization and maintenance of a fully operational molecular systematics laboratory. 2001 – 2006.
- Barrick Museum of Natural History and University of Nevada, Las Vegas. Collection and preparation of avian specimens. Collecting was conducted on several trips throughout the United States and Canada, and included expeditions to Honduras, Guatemala, Mexico (3), Panama, and Malawi. International expeditions were often in collaboration with other research institutions including UNAM – National Ornithological Collection (Dra. Patricia Escalante), UNAM – Department of Ecology (Dr. Adolfo Navarro), Smithsonian Tropical Research Institution – Panama, and the Malawi National Museum of Natural History. 2000 – 2006.
- University of Alaska, Fairbanks, Alaska. Phylogeography of the resident avifauna of the Queen Charlotte Islands, British Columbia, Canada. Approximately 50 birds prepared; mtDNA analyses conducted. 1999 – 2000.
- Cordova, Alaska, Prince William Sound. Part of a University of Alaska Museum and USDA study of avian viruses in migrating shorebirds. Approximately 200 birds collected and cloacal swabs taken for viral screening. 2000.
- Aleutian Islands, Alaska Peninsula, and Prince William Sound. Phylogeography of 8 landbirds of the Aleutian Islands. Approximately 300 birds collected and 100 prepared. 1999.
- Northfield, Minnesota, U.S.A. A test of the ideal free distribution model in Mallards (*Anas platyrhynchos*). 1995 – 1996.

a. Technical Experience.

- Museum specimen preparation. Prepared 5000 bird specimens for the Barrick Museum and University of Alaska Museum research collections and the Black Hills State University teaching collection as skins and tissues.
- Museum database management. Assisted curator in updating specimen information for the Barrick Museum bird collection database.
- Museum Collections management/curation. Managed and organized the tissue collection for the Barrick Museum bird collection. A collection that grew from 5000 to 18000 tissues during my tenure.