

**SHER L. HENDRICKSON**  
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## **EDUCATION**

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Ph.D., Zoology University of Wisconsin at Madison, Department of Zoology, 2003  
M.S., Biology University of Wisconsin-Parkside, Kenosha, WI, 1995 *with honors*  
B.S., University of Wisconsin-Parkside, Kenosha, WI, 1994 *Summa cum laude*

## **POSITION**

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**Assistant Professor of Evolutionary Biology**, Shepherd University, Dept of Biology, 2012–current

**Senior Fellow of the Theodosius Dobzhansky Center for Genome Bioinformatics**, St. Petersburg State University Russia, 2012–current

## **PRIOR POSITIONS**

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**Project Research Scientist**, Frederick National Laboratory of Cancer Research, National Institutes of Health, Kelly Governmental Services, 2012

**Adjunct Professor**, Shepherd University, 2011–2012

**Senior Research Fellow**, Laboratory of Genomic Diversity, National Cancer Institute, National Institutes of Health, Frederick, MD, 2008–2011

**Postdoctoral Research Fellow**, Cancer Research Training Award, National Cancer Institute, National Institutes of Health, Frederick, Maryland, 2003–2008

**Graduate Researcher**, Department of Zoology, University of Wisconsin at Madison, 1995–2003

**Research Assistant**, Department of Biology, University of Wisconsin-Parkside, 1991–1995

**Visiting Researcher**, Laboratory of Viral Carcinogenesis, National Institutes of Health, 1994, 1995

**Forensic Anthropology Assistant**, Dept. of Anthropology, University of Wisconsin-Parkside, 1995

## **PROFESSIONAL ACTIVITIES**

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**Genome 10K Executive Committee Workshop** Washington DC, Nov 9-11, 2016

**Recent Advances in Conservation Genetics Instructor, Whole genome approaches in Conservation Genetics, Bioinformatics & Association studies in Conservation. Instructor.** American Genetic Association in conjunction with the University of Pretoria, South African Wildlife College RSA, May15–25, 2013

**The Mammal Genome Committee (deciding member and secretary): Genome10K Initiative.** Hollywood, FL, April 25, 2013

**Bioinformatics and Statistical Methods for Genome Association, Instructor.** Koret School of Veterinary Medicine, Hebrew University of Jerusalem, Rehovot, Israel. March 2011

**Recent Advances in Conservation Genetics, Instructor.** American Genetics Association and the White Oak Conservation Center in Yulee, Florida, 2010

**Recent Advances in Conservation Genetics. Instructor.** American Genetic Association, NOAHS-Smithsonian Institution and the Smithsonian Tropical Research Station, Panama 2009

**NSF Graduate Teaching Fellow K-Infinity Professional Development Partnership**, University of Wisconsin Graduate School Office of Professional Development and Madison Metropolitan School District, Science Team Grades 6-8. Research Fellow 2002, Postdoctoral Fellow 2003

**PEOPLE (Pre-College Enrichment Opportunity Program for Learning Excellence)**, University of Wisconsin Center for Biology Education and Milwaukee, Beloit, and Racine Public Schools, 2001

### **HONORS AND GRANTS**

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NASA Research Enhancement Award, *Mitochondrial and Nuclear Genomes—is genome collaboration for human survival*, 2017

School of Natural Sciences and Mathematics Faculty Fellowship, *Mitochondrial and Nuclear Genomes—is genome collaboration for human survival*, 2017-18

NASA Seed Grant, *Genomics of high altitude adaptation in Andean horses*, 2014-15

NASA Research Enhancement Award, *Bioinformatic analysis of Andean horses genomes*, 2015

McMurrin Outstanding Scholar Award, Shepherd University, 2014

NSF WV-Epscor Innovation Grant, *Enhancement of undergraduate science education through creation of the Laboratory of Genomic Diversity*, 2014

NASA West Virginia Space Grant Consortium Research Enhancement Committee Grant, *Cytochrome-P450 genes in horses and other vertebrates*, 2014

Shepherd University Summer Professional Development Grant, *Cytochrome-P450 genes in horses and other vertebrates*. 2014

Professional Development Opportunities Mini Grant, *Genetic Adaptation in Mitochondria in a Population of Horses in the Ecuadorian High Andes*. 2013

Morris Animal Foundation grant, *Genetic Adaptation in Mitochondria in a Population of Horses in the Ecuadorian High Andes*. 2010-2012

Morris Animal Foundation grant, *Mitochondrial Genomics & Resistance to Infectious Disease in Domestic Cat & its Relatives*. [Co-PIs Jill Pecon-Slattey and Stephen J. O'Brien] 2010-2012

### **Past Grants and Awards:**

Harry R. Painton Award, outstanding paper published in 4 preceding years in *The Condor*, 2005

University of Wisconsin Excellence in Teaching Outreach Award Nomination, 2002

University of Wisconsin Graduate Student Mentor Award, 2001

Marcia Brady Tucker Travel Award, American Ornithologist's Union, 2001

John and Virginia Emlen Fund, Graduate Student Council Vilas Travel Grant, 2001

John Jefferson Davis Award, 1997, 1998, 2001

Dr. and Mrs. Carl Bunde Fund, 2000

University of Wisconsin Natural History Museum's Council Grants, 2000

Fundación Antisana Conservation (with additional members of PROCON), Netzer Brouchoud Fund, 1999

Sigma Delta Epsilon, Graduate Women in Science, Beta Chapter-Ruth Dickie Scholarship, 1997, 1998

Tinker Foundation/Nave Find Short-term field research grant, 1997

### **STUDENTS MENTORED**

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Jamed Ferreris, SOARS 2016-2017, current research assistant in compliance with Johns Hopkins MS in Bioinformatics program

Tyler Garrett, SOARS, 2016-2017

Adam Hull, SOARS co-mentor 2016-2017  
 S. Joanna Martinez, Shepherd University Master of Arts in Education program, 2011-2015  
 George Lambert: Undergraduate SOARS, 2014-2015  
 Jacob Nash, 425 Capstone, 2014-2016  
 John Davis, 425 Capstone, 2014-2015  
 Jade Flamenco, 425 Capstone, 2015  
 Katelyn Amspracher, 425 Capstone, 2015  
 Stephen Strecky, 425 Capstone, 2015  
 Jessica VanVleet. 415 Capstone. Department of Biology, Shepherd University, 2013- current  
 Sagi Polani, Hebrew University, Israel (PhD. secondary committee advisor), 2011–current  
 Brianna Taylor. 415 Capstone, Department of Biology, Shepherd University, 2013  
 Chad Starner. 415 Capstone. Department of Biology, Shepherd University, 2013  
 Susan Joanna Martinez, University of Maryland, 2008–2011  
 Taylor Donley, Findlay University, 2009–2010  
 Jorge Navarrete, Universidad de las Américas con sede en Quito, 2010  
 Mike Farrell, University of Gettysburg, 2007

NIH Werner H. Kirsten Student Interns:

Taylor Donley, Smithsburg High School, 2008–2009  
 S. Joanna Martinez, Walkersville High School, 2007–2008  
 Lindsay Williams, Urbana High School, 2006–2007  
 Kelly Serfling, Urbana High School, 2005–2006  
 Samantha Draper, Middletown High School, 2004–2005

**PROFESSIONAL SERVICE**

**Societies**

Society for the Study of Evolution (2010–current)	American Genetics Association (2009–current)
Cooper Ornithological Society (1998–2006)	American Society of Naturalists (2002–2003)
American Ornithologists Union (2000–2003)	National Center for Science Educ. (1995–1999)
Sigma Delta Epsilon - Graduate Women in Science (1997–2001)--Beta Chapter Secretary (1999)	
Society for Integrative and Comparative Biology (1997–1999)	

**Journal Reviews (\*recent)**

<i>*Journal of General Virology</i>	<i>*Infection, Genetics, and Evolution</i>
<i>PLOS One</i>	<i>*Evolutionary Bioinformatics</i>
<i>Genomics</i>	<i>Clinical Interventions in Aging</i>
<i>Journal of Heredity</i>	<i>AIDS</i>
<i>Journal of Acquired Immune Deficiency Syndromes</i>	<i>Viral Immunology</i>
<i>Biotropica</i>	<i>Journal of Clinical Immunology</i>
<i>AIDS Research and Human Retroviruses</i>	<i>F1000</i>

**Policy**

Iera. Reunión Internacional de Especialistas en Condor Andino and World Wildlife Federation, 2000.  
*Condor Conservation Action plan for the Northern Andes*, March 26-30, 2000, Mérida Venezuela.  
 NIH Policy discussion Group 2010–2011

**SELECT RESEARCH PRESENTATIONS (student or research presented by co- authors not listed)**

*A GWAS of high altitude adaptation in feral horses of the Andes*, Joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN), Snowbird, Utah, June 23, 2013

*A Genome Association Study of high altitude adaptation in horses of the Andes*, American Genetic Association Annual Symposium on Genomics and Biodiversity, Guanajuato, Mexico July 25, 2011

*Mitochondrial genetics of AIDS*, Invited lecture, CMEM, Children’s Hospital of Philadelphia, University

of Pennsylvania, 11 August 2010 – invited lecturer

Mitochondrial metabolism, climate and disease: Lessons from AIDS, Invited lecture, Gettysburg College, 30 April 2010 – invited lecturer

*Mitochondrial Functional Variation: Lesson from HIV*, Poster, 5 June 2009 American Genetics Association, Brown University, Providence, RI

Mitochondrial DNA haplogroups and risk of Neuroretinal disorder in HIV-positive patients, September 2009, SOCA Research Group Meeting, Bethesda, MD

*Mitochondrial haplogroups influence AIDS progression*, April 16 2008, HIV Think Tank, NCI, Frederick, MD

*Mitochondrial haplogroups and AIDS Progression*, January 2008, NIH Mitochondria Minisymposium, Bethesda, MD.

*Role of AIDS restriction genes on HAART efficacy in the MACS: New genetic study directions*, 2005 Joint Multicenter AIDS Cohort Study or Women's Interagency HIV Study Executive Committee Meeting, Crystal City, VA

*Genetics of HAART efficacy in the MACS*, Johns Hopkins Bloomberg School of Public Health, MD, 2004. – invited lecturer

*Brief introduction to project looking at the effects of host genetics on efficacy of HAART*, Joint Multicenter AIDS Cohort Study or Women's Interagency HIV Study Executive Committee Meeting, Fairfax, VA, 2004.

*Low Mitochondrial variability in New World Vultures: The need for understanding underlying genetic and life history phenomena influencing genetic markers*, Society for Conservation Biology meeting, June 29, 2003

*Formative & Summative Assessment: Finding a Practical Classroom Approach*, Full Option Science System Institute for Madison Metropolitan School District Middle School teachers, Wisconsin, June 16, 2003

*Genetic variability in the widespread Andean condor*, Evolution, Champagne-Urbana, Illinois, July 2002; American Ornithologist's Union and Society of Canadian Ornithologists joint meeting, Seattle, Washington August 2001

*Genetic variability and geographic structure of Andean condors*, Iera. Reunión Internacional de Especialistas en Condor Andino. Merida Venezuela March 26-30 2000

*MHC class I variation in captive tiger populations*, Zoological Society of Milwaukee County Conservation Symposium, University of Wisconsin - Milwaukee, November 1996

## **BIBLIOGRAPHY**

### **Submitted**

Polani S, Dean, Lichter-Peled M, Hendrickson S, Tsang S, Fang X, Feng Y, Qiao Y, Avni G, Bar-Gal G. Combined Whole Genome and Targeted Sequencing Reveals Variants Associated with Juvenile Idiopathic Epilepsy In Arabian Foals. Submitted BMC Genomics.

O'Leary, CA, Balme L, Menotti-Raymond, M, David V, O'Brien S, Penglis B, Hendrickson S, Reeves-Johnson M, Gottlieb S, Fleeman L, Vankan D, Morahan G, Rand J. Genetic Risk Factors Contributing to High Diabetes Mellitus Incidence in Australian-bred Burmese Cats Map to Feline Chromosomes C2, A3 and C1, Submitted.

## Published

- Li G, Hillier L, Grahn R, Zimin A, David V, Menotti-Raymond M, Hannah S, Hendrickson S, Makunin A, O'Brien S, Minx P, Wilson R, Lyons L, Warren W, and Murphy W. 2016. A high resolution SNP array-based linkage map anchors a new domestic cat draft genome assembly. *G3: Genes, Genomes, Genetics*. 6:1607-16.
- Svitin A, Malov S, Cherkasov N, Dobrynin P, Guan L, Geerts P, Troyer J, Hendrickson S, Sezgin E, Hutcheson Dilks H, Lautenberger J, Oleksyk T, Vlahov D, Kirk G, Buchbinder S, Kingsley L, Donfield S, Gomperts E, Jabs D, Van Natta M, Harrigan R, and O'Brien S. 2014. GWATCH: A Display Platform for Automated Genome-Wide Association Analyses, Replication and Open Access Data Sharing. *GiGaScience*. 3:18-28.
- Hendrickson, SL. 2013. A genome wide study of genetic adaptation to high altitude in feral Andean Horses of the páramo. *BMC Evol. Biol.* 13: 273-285. (Cover Article).
- O'Brien, SJ and Hendrickson, SL. 2013. Host genomic influences on HIV/AIDS. Invited Review. *Genome Biology*. 14:201-214.
- Minzhong Tang, Lautenberger JA, Gao X, Sezgin E, Hendrickson, SL, Troyer, JL, David, VAVictor, Guan L, Mcintosh, CE, Guo X, Zheng Y, Liao J, Deng H, Malasky M, Kessing B, Winkler CA, Carrington M, de The G, Zeng Y, O'Brien SJ. 2012. The Principal Genetic Determinants for Nasopharyngeal Carcinoma in China Involve HLA Class I Antigen Recognition Groove. *PLOS Genetics*. 8(11): 1-11.
- Wester CW, Eden SK, Shepherd BE, Bussmann H, Moyo S, Hendrickson SL, Samuels DC, Winkler CA, Essex M, D'Aquila RT, deGruttola V, and Marlink G. 2012. Risk Factors for Symptomatic Hyperlactatemia and Lactic Acidosis Among Combination Antiretroviral Therapy-Treated Adults in Botswana: Results From a Clinical Trial. *AIDS Research and Human Retroviruses*. 28(8): 759-765.
- Johnson WE and Hendrickson SL. 2011. American Genetic Association President's Symposium 2011: The Application of Genomics to Biodiversity. *Journal of Heredity*. 102(6):782-3.
- Troyer JL, Nelson GW, Lautenberger JA, Chinn L, McIntosh C, Johnson RC, Sezgin E, Kessing B, Malasky M, Hendrickson SL, Guan Li, Minzhong T, Ping An, Winkler CA, Limou S, Le Clerc S, Delaneau O, et al. 2011. PARD3B-based AIDS restriction discovered by genome-wide association study. *Journal of Infectious Disease*. 203(10):1491-1502.
- Hendrickson SL, Lautenberger JA, Chinn LW, Malasky M, Sezgin E., Kingsley LA, Goedert JJ, Kirk GA, Gomperts ED, Buchbinder SP, Troyer JL, and O'Brien SJ. 2010. Genetic Variants in Nuclear-Encoded Mitochondrial Genes Influence AIDS Progression. *PLoS ONE*. 5(9): e12862. doi: 10.1371/journal.pone.0012862.
- Sezgin E, Jabs DA, Hendrickson SL, Van Natta M, Zdanov A, Lewis RA, Smith MW, Troyer JL, O'Brien SJ. 2010. Effect of Host Genetics on the Development of Cytomegalovirus Retinitis in Patients with AIDS. *Journal of Infectious Disease*. 202(4):606-613.
- Hendrickson SL, Jabs DA, Van Natta M, Lewis RA, Wallace DC, O'Brien SJ. Mitochondrial haplogroups are associated with risk of Neuroretinal Disorder in HIV-positive patients. 2010. *Journal of AIDS*. 53(4):451-455.
- Sezgin E, Hendrickson SL, Jabs DA, Van Natta M, Lewis RA, Troyer JL, O'Brien SJ. Significant effects of host genetics on Neuroretinal disorder (NRD) development in HIV infected patients. 2010. *Journal of AIDS*. 54(4):343-351.
- Hendrickson SL, Kingsley LA, Ruiz-Pesini E, Poole JC, Jacobson LP, Palella FJ, Bream JH, Wallace DC,

- O'Brien SJ. 2009. Mitochondrial DNA Haplogroups influence lipoatrophy after Highly Active Anti-retroviral Therapy. *Journal of AIDS*. 51(2):111-116.
- Sezgin E, Lind JM, Shrestha S, Hendrickson S, Goedert JJ, Donfield S, Kirk GD, Phair JP, Troyer JL, O'Brien SJ, Smith MW. 2009. Association of Y Chromosome Haplogroup I with HIV Progression, and HAART Outcome. *Human Genetics*. 125(3):281-294.
- Hendrickson SL, Hutcheson HB, Ruiz-Pesisni E, Poole JC, Lautenberger J, Sezgin E, Kingsley L, Goedert J, Vlahov D, Donfield S, Wallace DC, and O'Brien SJ. 2008. Mitochondrial DNA Haplogroups influence AIDS Progression. *AIDS*. 22(18):2429-2439.
- Hendrickson SL, Jacobson LP, Nelson GW, Phair JP, Lautenberger J, Johnson RC, Kingsley L, Margolick JB, Detels R, Goedert JJ, O'Brien SJ. 2008. Host genetic influences on highly active antiretroviral therapy efficacy and AIDS-free survival. *Journal of AIDS*. 48(3):263-271.
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- Hendrickson SL. 2006. Using formative assessments to evaluate student understanding of National Science Standards taught via inquiry-based learning activities. *Science Scope*. 29(4):30-33.
- Hendrickson SL, Bleiweiss R, Matheus JC, Matheus L, Jácome NL, Pavez E. 2003. Low genetic variability in the geographically widespread Andean condor (*Vultur gryphus*). *The Condor*. 105:1-12 (Cover Article).
- Bleiweiss R, Hendrickson SL, Berres ME, Willis YO, and Willis EO. 2003. Affinities of the Saw-billed Hermit (*Ramphodon naevius*) determined by cytochrome-b sequence data. *Wilson Bulletin*. 115: 1-10 (Cover Article).
- Hendrickson SL, Mayer GC, Wallen EP. 2001. Genetic variability and geographic structure of three subspecies of tigers (*Panthera tigris*) based on MHC class I variation. *Animal Conservation*. 3, 135-143
- Non-peer reviewed publications**
- Hendrickson SL, Bleiweiss R, Matheus JC, Matheus L, Jácome NL, Pavez E. 2003. Low variability in the widespread Andean condor. *Registro Nacional de Condor Andino*.
- Hendrickson SL. 2003. Natural History, Population Decline and Mitochondrial Genetics of Cathartids (Aves: Ciconiiformes): with special focus on the Andean condor. *Vulture News* 49.
- Hendrickson SL, and other members of Iera. Reunión Internacional de Especialistas en Condor Andino and WWF. 2000. Genetic variability and geographic structure of Andean condors. Contribution to the *Condor Conservation Action plan for the Northern Andes*, March 26-30, 2000, Mérida Venezuela.
- Hendrickson SL. 1998. Genetic Variation in Andean condors. *Registro Nacional de Condor Andino*.
- Saving the tigers. 1996. Conservation Chronicles. *Alive* 16:1, 7. (interview, Cover article)
- Chang C-C, Schmidt DR, Hendrickson SL. 1993. Penicillin-Binding Proteins in Plant Tissues. *Plant Physiology*. 99:1, 842.