

Eric Alexander Lewallen, Ph.D.
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RESEARCH INTERESTS

Fish Ecology - Shark Evolution - Population Biology - Phylogenetics - Geographic Information Science
 Molecular Genetics - Bioinformatics - Biomaterials - Tissue Engineering

CURRENT POSITIONS

- Assistant Professor** Hampton University
 Department of Biological Sciences
 DuPont Hall Room 107
 Hampton, VA 23668
 Phone (w): +1.757.727.5914
 E-mail (w): eric.lewallen@hamptonu.edu
- Research Collaborator** Mayo Clinic
 Department of Orthopedic Surgery & Biochemistry and Molecular Biology
 200 First Street SW, MedSci 3rd Floor
 Rochester, MN 55905
 E-mail (w): lewallen.eric@mayo.edu

EDUCATION

- Postdoctoral** Mayo Clinic, Rochester, MN
 Molecular Biology & Orthopedic Surgery, 2013-2017
 Dr. Andre J. van Wijnen
Biological enhancement of orthopedic implant materials
- Ph.D.** University of Toronto, Ontario, Canada
 Ecology and Evolutionary Biology, 2006 - 2012
 Dr. Nathan Lovejoy (Advisor)
Evolution and Ecology of Flyingfishes (Teleostei: Exocoetidae)
- M.Sc.** San Diego State University, California, USA
 Ecology, 2003-2006
 Dr. Andrew Bohonak (Advisor); Dr. Todd Anderson (Co-Advisor)
The genetic structure and isolation of leopard shark (Triakis semifasciata) populations in California waters: implications for management
- B.Sc.** University of Colorado Boulder, Colorado, USA
 Biology (cum laude), 1998-2002
 Dr. Andrew Martin (Honor's thesis advisor)
The behavior and genetic structure of scalloped hammerhead sharks (Sphyrna lewini) based on mtDNA sequencing

CURRENT RESEARCH SUPPORT

- NSF HRD** (Role: co-Principal Investigator) Amount- \$400,000; Period- 07/01/19 - 6/30/2022
 Title: Targeted Infusion Project: Mathematical Engagement for the Marine, Biological, and Environmental Realms of Science (MEMBERS)
 Strengthens the mathematical curriculum of undergraduate STEM education at Hampton University
- NOAA LMRCSC** (Role: co-Principal Investigator) Amount- \$28,126; Period- 06/21/19 - 08/31/21
 Title: Evaluation of age, natal origin, and trophic history of Pacific Lamprey (*Entosphenus tridentatus*)
 Aims to develop novel strategies for evaluating the life history of Pacific Lamprey
- NOAA LMRCSC** (Role: Principal Investigator; Amount- \$95,044; Period- 04/01/19-08/31/21)

Title: Genetic assessment of feeding ecology and prey items in the Pacific lamprey
 Analyzes ecology and prey selectivity of the Pacific lamprey

NIH MMHI Pilot Project Program (Role: Principal Investigator; Amount- \$100,000; Period- 12/04/18 - 06/30/19)

Title: Bioinformatics and GIS-based approaches to modeling prostate cancer rates in Virginia
 Examines environmental factors most associated with elevated rates of prostate cancer

PAST RESEARCH AWARDS, FUNDS, AND GRANTS

2018 HU Faculty Research Award (Role: PI; Amount- \$6,000; 02/01/18-02/01/19)
 2017 NOAA LMRCS (Role: PI; Amount- \$51,853; 08/21/17-08/21/19)
 2016 *Postdoctoral Fellowship* - Ruth L. Kirschstein National Research Service Award (F32 AR068154), National Institutes of Health (**\$110,000**)
 2015 *Postdoctoral Fellowship* - Musculoskeletal Research Training Program (T32 AR056950), National Institute of Arthritis and Musculoskeletal and Skin Diseases (**\$77,000**)
 2011 *Doctoral Completion Award* (**\$20,000**), University of Toronto
 2010 *Graduate Student Travel Grant* (**\$300**), University of Toronto
 2009 *Lerner-Gray Fund* (**\$2,300**), American Museum of Natural History
 2009 *Graduate Student Travel Grant* (**\$300**), University of Toronto
 2009 *Sigma Xi* (**\$400**)
 2008 *Graduate Student Travel Grant* (**\$300**), University of Toronto
 2005 *Farris Travel Grant* (**\$500**), San Diego State University
 2004 *PADI Project Aware* (**\$1,000**)
 2002 *Undergraduate Research Opportunities Grant* (**\$300**), University of Colorado Boulder.

PEER-REVIEWED PUBLICATIONS

Bayram B, Limberg AK, Salib CG, Bettencourt JW, Trousdale WH, **Lewallen EA**, Reina N, Paradise CR, Thaler R, Morrey ME, Sanchez-Sotelo J, Berry DJ, van Wijnen AJ, Abdel MP: Molecular Pathology of Human Knee Arthrofibrosis Defined by RNA Sequencing. *Genomics* (under review).
 Bonin CA, van Wijnen AJ, **Lewallen EA**: MicroRNA applications in marine biology. *Current Molecular Biology Reports* 2019. 5: 167. DOI:10.1007/s40610-019-00124-w.
 Yao J, **Lewallen EA**, Thaler R, Dudakovic A, Wermers M, Day P, Eckdahl S, Jannetto P, Bornhorst J, Larson AN, Abdel MP, Lewallen DG, van Wijnen AJ: Challenges in the Measurement and Interpretation of Serum Titanium Concentrations. *Biological Trace Element Research* 2019. DOI:10.1007/s12011-019-01891-4
 Soreide E, Denbeigh JM, **Lewallen EA**, Thaler R, Samsonraj R, Jones D, Xu W, Larson D, Nordsletten L, Kakar S, van Wijnen AJ: A novel tissue culture device for evaluating tendon explants. *BMC Musculoskeletal Disorders* 2019. 20:549. DOI:10.1186/s12891-019-2896-2.
 Soreide E, Denbeigh JM, **Lewallen EA**, Thaler R, Xu W, Berglund L, Yao JJ, Martinez A, Nordsletten L, van Wijnen AJ, Kakar S: In vivo assessment of high molecular weight polyethylene core suture tape in intra articular ligament reconstruction. *Bone and Joint Journal* 2019. 101-B:1238–1247. DOI:10.1302/0301-620X.101B10.
 Salib CG, Reina N, Trousdale WH, Limberg AK, Tibbo ME, Jay AG, Robin JX, Turner TW, Jones CR, Paradise CR, **Lewallen EA**, Bolon B, Carter JM, Berry DJ, Morrey ME, Sanchez-Sotelo J, van Wijnen AJ, Abdel MP: Inhibition of COX-2 pathway as a potential prophylaxis against arthrofibrogenesis in a rabbit model of joint contracture. *Journal of Orthopaedic Research* 2019. DOI:10.1002/jor.24441.
 Rbia N, Liselotte F, Bulstra LF, **Lewallen EA**, Hovius SER, van Wijnen AJ, Shin AY: Seeding Decellularized Nerve Allografts with Adipose-Derived Mesenchymal Stromal Cells: An in-vitro analysis of the gene-expression and growth factors produced. *Journal of Plastic, Reconstructive & Aesthetic Surgery* 2019. DOI:10.1016/j.bjps.2019.04.014
 Salib CG, **Lewallen EA**, Paradise CR, Tibbo ME, Robin JX, Trousdale WH, Morrey LM, Xiao J, Turner TW, Limberg AK, Jay AG, Thaler R, Dudakovic A, Sanchez-Sotelo J, Morrey ME, Berry DJ, Lewallen DG, van Wijnen AJ, Abdel MP: Molecular pathology of adverse local tissue reaction caused by metal-on-metal implants defined by RNA-seq. *Genomics* 2018. DOI:10.1016/j.ygeno.2018.09.013
 Soreide E, Denbeigh JM, **Lewallen EA**, van Wijnen A, Kakar S: Treatment of Dupuytren's Disease: A

- systematic review. *The Bone & Joint Journal* 2018. 100-B: 1138-45.
- Trousdale WH, Salib CG, Reina N, **Lewallen EA**, Viste A, Berry DJ, Morrey ME, Sanchez-Sotelo J, van Wijnen AJ, Abdel MP: A Drug Eluting Scaffold for the Treatment of Arthrofibrosis. *Tissue Engineering Part C* 2018. DOI:10.1089/ten.TEC.2018.0136.
- Arsoy D, Salib CG, Trousdale WH, Tibbo ME, Limberg AK, Viste A, **Lewallen EA**, Reina N, Yaszemski MJ, Berry DJ, van Wijnen AJ, Morrey ME, Sanchez-Sotelo J, Abdel MP: Joint Contracture is Reduced by Intra-articular Implantation of Rosiglitazone-Loaded Hydrogels in a Rabbit Model of Arthrofibrosis. *Journal of Orthopaedic Research* 2018. DOI:10.1002/jor.24068.
- Soreide E, Denbeigh JM, **Lewallen EA**, Samsonraj RM, Berglund LJ, Cool SM, Nordsletten L, Kakar S, van Wijnen AJ: Fibrin glue mediated delivery of bone anabolic reagents to enhance healing of tendon to bone. *Journal of Cellular Biochemistry* 2018. DOI:10.1002/jcb.26755.
- Lewallen EA***, Salib CG*, Trousdale WH, Berry CE, Hanssen GM, Robin JX, Viste A, Reina N, Morrey ME, Sanchez-Sotelo J, Hanssen AD, Berry DJ, van Wijnen AJ, Abdel MP: Molecular pathology of total knee arthroplasty instability defined by RNA-seq. *Genomics* 2017 DOI:10.1016/j.ygeno.2017.11.001.
- Bonin CA, **Lewallen EA**, van Wijnen AJ, Cremer MJ, Simões-Lopes PC: Habitat preference and behavior of the Guiana dolphin (*Sotalia guianensis*) in a well-preserved estuary off southern Brazil. *Pakistan Journal of Zoology* 49:2235-2242, 2017. DOI:10.17582/journal.pjz/2017.49.6.2235.2242.
- Yao JJ*, **Lewallen EA***, Trousdale WH, Xu W, Thaler R, Salib CS, Reina N, Abdel MP, Lewallen DG, van Wijnen AJ: Local Cellular Responses to Titanium Dioxide from Orthopedic Implants. *BioResearch* 2017. DOI:10.1089/biores.2017.0017.
- Morrey ME, Sanchez-Sotelo J, **Lewallen EA**, An K-N, Grill DE, Steinmann SP, Yao JJ, Salib CG, Trousdale WH, Reina N, Kremers HM, Lewallen DG, van Wijnen AJ, Abdel MP: Intra-articular Injection of a Substance P Inhibitor Affects Gene Expression in a Joint Contracture Model. *Journal of Cellular Biochemistry* 2017. DOI:10.1002/jcb.26256.
- Jo S, **Lewallen EA**, Morrey LB, Riester SM, Trousdale WH, Salib CG, Reina N, Yaszemski MJ, Sanchez-Sotelo J, Morrey ME, van Wijnen AJ, Abdel MP: Biopolymer-based intra-articular delivery of DKK1 into the contracted rabbit knee. *Gene Reports* 8:69-74, 2017. DOI:10.1016/j.genrep.2017.05.006.
- Walker JA, Ewald TJ, **Lewallen EA**, van Wijnen AJ, Hanssen AD, Morrey BF, Morrey ME, Abdel MP, Sanchez-Sotelo J: Intra-articular implantation of collagen scaffold carriers is safe in both native and arthrofibrotic rabbit knee joints. *Bone and Joint Research*, 2017. DOI:10.1302/2046-3758.63.BJR-2016-0193.
- Kremers HM, Schleck CD, **Lewallen EA**, Larson DR, van Wijnen AJ, Lewallen DG: Diabetes mellitus and hyperglycemia and the risk of aseptic loosening in total joint arthroplasty, *The Journal of Arthroplasty*, 2017. DOI:10.1016/j.arth.2017.02.056.
- Lewallen EA**, van Wijnen AJ, Bonin CA, Lovejoy NR: Flyingfish (Exocoetidae) species diversity and habitats in the eastern tropical Pacific Ocean. *Marine Biodiversity*, 2017. DOI:10.1007/s12526-017-0666-7.
- Lewallen EA**, Bohonak AJ, Bonin CA, van Wijnen AJ, Pitman RL, Lovejoy NR: Phylogenetics and biogeography of the two-wing flyingfishes (Exocoetidae: *Exocoetus*). *Ecology & Evolution*, 2017. DOI:10.1002/ece3.2786.
- Riester SM*, Denbeigh J*, Lin Y, Jones DL, de Mooij T, **Lewallen EA**, Nie H, Paradise CR, Radcliff DJ, Dudakovic A, Camilleri ET, Larson DR, Qu W, Krych A, Frick MA, Im H-J, Dietz AB, Smith J, van Wijnen AJ: Safety studies for use of adipose tissue-derived mesenchymal stromal/stem cells in a rabbit model for osteoarthritis to support a Phase I clinical trial. *Stem Cells Translational Medicine*, 2016. DOI:10.5966/sctm.2016-0097.
- Lewallen EA**, Bohonak AJ, Bonin CA, van Wijnen AJ, Pitman RL, Lovejoy NR: Population genetic structure of the tropical two-wing flyingfish (*Exocoetus volitans*). *PLOS ONE* 11:e0163198, 2016. DOI:10.1371/journal.pone.0163198.
- Ewald TJ, Walker JA, **Lewallen EA**, Yaszemski MJ, Hanssen AD, Morrey BF, van Wijnen AJ, Sanchez Sotelo J, Morrey ME, Abdel MP: Safe Delivery of Anti-Fibrotic Reagents into the Intra-Articular Rabbit Knee using Biodegradable Oligo[Poly(ethylene glycol) Fumarate] (OPF) Implants. *Tissue Engineering Part C*, 2016. DOI:10.1089/ten.TEC.2016.0209.
- Lewallen EA***, Bonin CA*, Li X, Smith J, Karperien M, Larson AN, Lewallen DG, Cool SM, Westendorf JJ, Krych AJ, Leontovich AA, Im H, van Wijnen AJ (2016): The synovial microenvironment of osteoarthritic joints alters RNAseq expression profiles of human primary articular chondrocytes. *Gene* 591:456-64, 2016. DOI:10.1016/j.gene.2016.06.063.

- Kremers HM, **Lewallen EA**, van Wijnen AJ, Lewallen DG: Clinical factors and disease parameters affecting osseointegration of orthopedic implants. *Current Molecular Biology Reports* 2:123-132, 2016. DOI:10.1007/s40610-016-0042-6.
- Lin Y, **Lewallen EA**, Camilleri ET, Bonin CA, Jones DJ, Dudakovic A, Galeano-Garces C, Wang W, Karperien MJ, Larson AN, Dahm DL, Stuart MJ, Levy BA, Smith J, Ryssman DB, Westendorf JJ, Im H-J, van Wijnen AJ, Riester SM, Krych AJ: RNA-seq analysis of osteochondral allografts reveals activation of early response genes and reduced expression of extracellular matrix-related genes. *Journal of Orthopaedic Research* 34:1950-1959, 2016. DOI:10.1002/jor.23209.
- Onishi K.*, Jones DL*, Riester SM, **Lewallen EA**, Lewallen DG, Sellon JL, Dietz AB, Qu W, van Wijnen AJ, Smith J: Human adipose-derived mesenchymal stromal/stem cells remain viable and metabolically active following needle passage. *Physical Medicine & Rehabilitation* 8:844-854, 2016. DOI:10.1016/j.pmrj.2016.01.010
- Lewallen EA**, Jones DL, Dudakovic A, Thaler R, Paradise C, Kremers HM, Abdel MP, Dietz AB, Cohen RC, Lewallen DG, van Wijnen AJ: Osteogenic potential of human adipose-tissue derived mesenchymal stromal cells cultured on 3D-printed porous structured titanium. *Gene* 581:95-106, 2016. DOI:10.1016/j.gene.2016.01.015.
- Bonin CA, **Lewallen EA**, Baheti S, Bradley EW, Stuart MJ, Berry DJ, van Wijnen AJ, Westendorf JJ: Identification of differentially methylated regions in new genes associated with knee osteoarthritis. *Gene* 576: 312-318, 2016. DOI:10.1016/j.gene.2015.10.037.
- Getzlaf MA*, **Lewallen EA***, Kremers HM, Jones DL, Bonin CA, Dudakovic A, Thaler R, Cohen RC, Lewallen DG, van Wijnen AJ: Multi-disciplinary antimicrobial strategies for improving orthopaedic implants to prevent prosthetic joint infections in hip and knee. *Journal of Orthopaedic Research* 34:177-186, 2016. DOI:10.1002/jor.23068.
- Dudakovic A, Camilleri ET, Xu F, Riester SM, McGee-Lawrence ME, Bradley EW, Paradise CR, **Lewallen EA**, Thaler R, Deyle DR, Larson AN, Lewallen DG, Dietz AB, Stein GS, Montecino MA, Westendorf JJ, van Wijnen AJ: Epigenetic Control of Skeletal Development by the Histone Methyltransferase Ezh2. *Journal of Biological Chemistry* 290:27604-27617, 2015. DOI:10.1074/jbc.M115.672345/jbc.M115.672345.
- Barker AM, Nosal AP, **Lewallen EA**, Burton RS: Genetic Structure of leopard shark (*Triakis semifasciata*) populations along the Pacific coast of North America. *Journal of Experimental Marine Biology and Ecology* 472:151-157, 2015. DOI:10.1016/j.jembe.2015.06.020.
- Dudakovic A, Camilleri ET, **Lewallen EA**, McGee-Lawrence ME, Riester SM, Kakar S, Montecino M, Stein GS, Ryoo H-M, Dietz AB, Westendorf JJ, van Wijnen AJ: Histone deacetylase inhibition destabilizes the multi-potent state of uncommitted adipose-derived mesenchymal stromal cells. *Journal of Cellular Physiology* 230: 52-62, 2015. DOI:10.1002/jcp.24680.
- Lewallen EA**, Riester SM, Bonin CA, Kremers HM, Dudakovic A, Kakar S, Cohen RC, Westendorf JJ, Lewallen DG, van Wijnen AJ: Biological strategies for improved osseointegration and osteoinduction of porous metal orthopedic implants. *Tissue Engineering Part B* 21:218-230, 2014. DOI:10.1089/ten.teb.2014.0333.
- Dudakovic A, Camilleri E, Riester SM, **Lewallen EA**, Kvasha S, Chen X, Radel DJ, Anderson JM, Nair AA, Evans JM, Krych AJ, Smith J, Deyle DR, Stein JL, Stein GS, Im H-J, Cool SM, Westendorf JJ, Kakar S, Dietz AB, van Wijnen AJ: High-resolution molecular validation of self-renewal and spontaneous differentiation in clinical-grade adipose-tissue derived human mesenchymal stem cells. *Journal of Cellular Biochemistry* 115:1816-1828, 2014. DOI:10.1002/jcb.24852.
- Van Noord JE, **Lewallen EA**, Pitman RL: Flyingfish feeding ecology in the eastern Pacific: Prey partitioning within a speciose epipelagic community. *Journal of Fish Biology* 83: 326-342, 2013. DOI:10.1111/jfb.12173.
- Nosal AP, **Lewallen EA**, Burton RS: Multiple paternity in leopard shark (*Triakis semifasciata*) litters sampled from a predominantly female aggregation in La Jolla, California, USA. *Journal of Experimental Marine Biology and Ecology* 446:110-114, 2013. DOI:10.1016/j.jembe.2013.05.002.
- Lewallen EA**, Pitman RL, Kjartanson SK, Lovejoy NR: Molecular systematics of flyingfishes (Exocoetidae): an epipelagic fish clade. *Biological Journal of the Linnean Society* 102: 161-174, 2011. DOI:10.1111/j.1095-8312.2010.01550.x.
- Vandergast AG, **Lewallen EA**, Deas J, Bohonak AJ, Weissman DB, Fisher RN: Loss of genetic connectivity and diversity in urban microreserves in a southern California endemic Jerusalem cricket (Orthoptera: Stenopelmatidae: *Stenopelmatus n.sp.* "Santa Monica"). *Journal of Insect Conservation* 13: 329-345, 2009. DOI:10.1007/s10841-008-9176-z.
- Lewallen EA**, Anderson TW, Bohonak AJ: Genetic structure of leopard shark (*Triakis semifasciata*) populations in California waters. *Marine Biology* 152: 599-609, 2007. DOI:10.1007/s00227-007-

0714-0.

* denotes equal contribution

TEACHING EXPERIENCE

2017-pres	Introductory Biology Parts 1 & 2 (~250 students), Hampton University, VA
2018-2019	Research Problems in Biology (10 students), Hampton University, VA
2017-2019	Fundamentals of Cell Biology (~250 students), Hampton University, VA
2012	Fish Biology (Invited Instructor), Scripps Institution of Oceanography, San Diego, CA
2010	Field Ornithology (15 students), WRS Algonquin Provincial Park, ON
2010	Tropical Marine Ecology and Evolution (6 students) STRI-Bocas del Toro, Panama
2009-2010	Writing and Speaking in Biology (1 section, 24 students) University of Toronto
2009	Field Ornithology (17 students), WRS Algonquin Provincial Park, ON
2009-2010	Course Coordinator, Tropical Marine Biology, STRI, Panama
2008-2009	Writing and Speaking in Biology (1 section, 24 students) University of Toronto, ON
2008	Marine Biology Field Research (1 section, 14 students) Huntsman, St. Andrews, NB
2008	Introductory Biology, Part 2 (2 sections, 46 students) University of Toronto, ON
2007-2008	Principles of Ecology and Evolution (2 sections, 25 students) University of Toronto
2006-2007	Organisms in their Environment (2 sections, 48 students) University of Toronto
2003-2005	Introduction to Biology Lab (6 sections, 150 students) SDSU, San Diego, CA

FIELD-BASED RESEARCH EXPERIENCE

2019	Visiting scientist, Pacific lamprey harvest, Willamette Falls, Oregon	(Dr. Jon Hess)
2012	Satellite tagging and biopsy of deep-diving marine mammals, Bahamas	(Dr. John Durban)
2012	Sampling of marine fishes, Gulf of California, Mexico	(Dr. Brad Erisman)
2011	Leopard shark tracking and data collection, La Jolla, California	(Dr. Andrew Nosal)
2010	Visiting scientist, tropical Atlantic Ocean, <i>RV Endeavor</i>	(Dr. Rainer Lohmann)
2009	Electric knifefish (Gymnotidae) sampling expedition, Central America	(Kristen Brochu)
2008	Sampling expedition for anchovies (Engraulidae), Panama	(Dr. Devin Bloom)
2008	Flyingfish (Exocoetidae) sampling expedition, Barbados	(Dr. Hazel Oxenford)
2007	Marine mammal observer, eastern tropical Pacific Ocean, <i>RV McArthur</i>	(Dr. Lisa Ballance)
2005	Scuba surveys of fishes, invertebrates and macroalgae, California	(Dr. Todd Anderson)
2004	Gillnet sampling and fish identification, San Diego, California	(Henry Simonds)
2004	Leopard shark tagging and tracking, Catalina Island, California	(Dr. Christopher Lowe)
2003	Gillnet sampling and fish identification, coastal California, <i>RV Vantuna</i>	(Dr. Larry Allen)

LABORATORY-BASED RESEARCH EXPERIENCE

2018-pres	Epidemiology of prostate cancer in Virginia	(Dr. Tunde Adebola)
2017-pres	Genetic investigations of marine organisms	(Dr. Carolina Bonin)
2013-2017	Molecular characterization of musculoskeletal tissues	(Dr. Andre van Wijnen)
2010-2012	DNA analysis of freshwater invertebrate populations	(Dr. Andrew Bohonak)
2007-2011	Museum fish curation, Scripps Institution of Oceanography	(Dr. Phil Hastings)
2007-2011	Fish identification and taxonomy, Royal Ontario Museum	(Dr. Rick Winterbottom)
2005-2006	Molecular analysis of insects, US Geological Survey	(Dr. Amy Vandergast)

ANALYTICAL TRAINING

2018	<i>Short Course on Geographical Information Systems</i> : Dr. Tonny Oyana, Hampton University
2016	<i>Computational Genomics</i> : Dr. Saurabh Sinha, Mayo Clinic (1 week)
2015	<i>GALAXY training</i> : Dr. Alexey Leontovich, Mayo Clinic (1 year)
2013	<i>Bioinformatics</i> : Dr. Alexey Leontovich, Mayo Clinic (1 semester)
2013	<i>Genome Biology</i> : Dr. Bruce Horazdovsky, Mayo Clinic (1 semester)
2010	<i>Aquatic Geographic Information Systems</i> : Dr. Jason Knouft, St. Louis University (1 week)
2008	<i>Topics in Geographical Information Science</i> : Dr. Vincent Robinson, University of Toronto (1 semester)
2005	<i>Advanced Geographic Information Systems</i> : Dr. Piotr Jankowski, San Diego State University (1 semester)
2004	<i>Population Genetics</i> : Dr. Andrew Bohonak - San Diego State University (1 semester)
2004	<i>Univariate Statistical Methods in Biology</i> : Dr. Matt Edwards - San Diego State University (1 semester)

PRESENTATIONS

- Bayram B, Limberg AK; Salib CG; Bettencourt JW; Trousdale WH; Lewallen EA; Reina N; Paradise CR, Thaler R; Morrey ME; Sanchez-Sotelo J; Berry DJ, van Wijnen AJ, Abdel MP. Molecular Pathology of Human Knee Arthrofibrosis Defined by RNA Sequencing. *Orthopedic Research Society*, Phoenix, AZ, February 8-11, 2020. Abstract #1902.
- Stojilovic O, Goebel M, Krause D, Cruz K, **Lewallen EA**, Bonin CA. Genetic Diversity in an Antarctic Ecosystem Top Predator, the Leopard Seal (*Hydrurga Leptonix*). *24th Annual School of Science Research Symposium*, Hampton University, Hampton, VA, April 16-17, 2019. Abstract #31.
- Smith NN, Kellar N, Trego M, **Lewallen EA**, Bonin CA. Human Homolog MicroRNAs Found in Common Bottlenose Dolphin Skin Tissues. *24th Annual School of Science Research Symposium*, Hampton University, Hampton, VA, April 16-17, 2019. Abstract #30
- Layton J, Bonin CA, Park LK, Weitkamp LA, **Lewallen EA**. The Feeding Ecology of Pacific Lampreys Assessed by Gut Fullness and Prey Identification. *24th Annual School of Science Research Symposium*, Hampton University, Hampton, VA, April 16-17, 2019. Abstract #21
- Salib CG, Reina N, Trousdale WH, Limberg AK, Tibbo ME, Jay AG, Robin JX, Turner TW, Jones CR, Paradise CR, **Lewallen EA**, Carter JM, Berry DJ, Morrey ME, Sanchez-Sotelo J, van Wijnen AJ, Abdel MP. Inhibition of COX-2 Pathways as Potential Prophylaxis Against Arthrofibrogenesis in a Rabbit Model of Joint Contracture. *Orthopedic Research Society*, Austin, TX, February 3, 2019. Abstract #923.
- Zhang C, **Lewallen EA**, Yao JJ, Zan P, Karau M, van Wijnen AJ, Larson AN, Milbrandt TA. Topical Vancomycin Toxic to Stem Cells in Concentrations over 5 mg/ml. *Scoliosis Research Society*, Bologna, Italy, October 10-13, 2018.
- Layton JM, Bonin CA, Pressley N, Park LK, Weitkamp LA, **Lewallen EA**. Genetic-based methods for assessing prey composition and feeding ecology of Pacific lampreys. *Emory University-Laney Graduate School STEM Research and Career Symposium*, Atlanta, GA, September 30 - October 2, 2018.
- Milton IA, Smith NN, Goebel M, Krause D, **Lewallen EA**, Barreto F, Hoffman J, Bonin CA. Social Structure of Leopard Seal, *Hydrurga leptonyx*, at Livingston Island, Antarctica. *90th Annual National Technical Association Conference*, Hampton University, Hampton, VA, September 28-29, 2018. Abstract #31.
- Cruz K, Rittman J, Carter N, Carter K, Pressley N, Milton I, Layton J, Smith N, Bonin C, **Lewallen EA**. High-Throughput Genetic Techniques for Monitoring Black Sea Bass Abundance in the Chesapeake Bay Area. *90th Annual National Technical Association Conference*, Hampton University, Hampton, VA, September 28-29, 2018. Abstract #24.
- Mayes C, Horodysky A, Bonin C, Fogarty M, Gibson D, **Lewallen EA**. Ecosystem Based Approaches to Modeling Fish Species Distributions in the Atlantic. *90th Annual National Technical Association Conference*, Hampton University, Hampton, VA, September 28-29, 2018. Abstract #19.
- Smith NN, Milton IA, Cox T, Kellar N, Trego M, Morin P, **Lewallen EA**, Bonin CA. Assessing the utility of microRNAs as biomarkers for marine mammal health. *90th Annual National Technical Association Conference*, Hampton University, Hampton, VA, September 28-29, 2018. Abstract #14.
- Layton JM, Bonin CA, Pressley N, Park LK, Weitkamp LA, **Lewallen EA**. Genetic-based methods for assessing prey composition and feeding ecology of Pacific lampreys. *90th Annual National Technical Association Conference*, Hampton University, Hampton, VA, September 28-29, 2018. Abstract #8.
- Soreide E, Denbeigh JM, **Lewallen EA**, Nordsletten L, van Wijnen AJ, Kakar S. In vivo assessment of FiberTape in intra articular ligament reconstruction. *American Society for Surgery of the Hand*, Boston, MA, September 13-15, 2018.
- Bonin CA, Goebel ME, Krause, D, **Lewallen, E**, Milton I, Smith N, Cleary A, Hoffman L. Leopard seal, *Hydrurga leptonix*, genetic relatedness in Livingston Island, Antarctica. *International Polar Meeting*. Davos, Switzerland. June 19-23, 2018.
- Zhang C, **Lewallen EA**, Yao JJ, Zan P, Karau M, Patel R, van Wijnen AJ, Larson AN, Milbrandt TA. In Vitro Stem Cell Physiologic Response following Vancomycin. *POSNA Annual Meeting*, Austin, TX, May 9-12, 2018. Abstract #675.
- Smith NN, Milton IA, Cox T, Kellar N, Trego M, Morin P, **Lewallen EA**, Bonin CA. Assessing the utility of microRNAs as biomarkers for marine mammal health. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.

- Coleman DS, Ballard A, Lewter NP, DeSchepper KM, **Lewallen EA**. The Relationship Between Gap Junction Proteins and Genes in Hypoplastic Left Heart Syndrome. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.
- Milton IA, Smith NN, Goebel M, Krause D, **Lewallen EA**, Barreto F, Hoffman J, Bonin CA. Social Structure of Leopard Seal, *Hydrurga leptonyx*, at Livingston Island, Antarctica. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.
- Layton JM, Bonin CA, Pressley N, Park LK, Weitkamp LA, **Lewallen EA**. Genetic-based methods for assessing prey composition and feeding ecology of Pacific lampreys. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.
- Cruz K, Rittman J, Carter N, Carter K, Pressley N, Milton I, Layton J, Smith N, Bonin C, **Lewallen EA**. Genetic Techniques for Monitoring Black Sea Bass Abundance in the Chesapeake Bay Region. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.
- Mayes C, Horodysky A, Bonin CA, Fogarty M, Gibson D, Wiley S, **Lewallen EA**. Ecosystem Based Approaches to Modeling Fish Species Distributions in Chesapeake Bay. *23rd Annual School of Science Research Symposium*, Hampton University, Hampton, VA April 11-12, 2018.
- Smith NN, Milton IA, Cox T, Kellar N, Trego M, Morin P, **Lewallen EA**, Bonin CA. Assessing the utility of microRNAs as biomarkers for marine mammal health. *9th Biennial NOAA EPP Science and Education Forum*, Howard University, Washington, DC, March 18-21, 2018.
- Milton IA, Smith NN, Goebel M, Krause D, **Lewallen EA**, Barreto F, Hoffman J, Bonin CA. Social Structure of Leopard Seal, *Hydrurga leptonyx*, at Livingston Island, Antarctica. *9th Biennial NOAA EPP Science and Education Forum*, Howard University, Washington, DC, March 18-21, 2018.
- Layton JM, Bonin CA, Pressley N, Park LK, Weitkamp LA, **Lewallen EA**. Genetic-based methods for assessing prey composition and feeding ecology of Pacific lampreys, *9th Biennial NOAA EPP Science and Education Forum*. Howard University, Washington, DC, March 18-21, 2018.
- Zhang C, **Lewallen EA**, Yao JJ, Zan P, Karau M, Patel R, van Wijnen AJ, Larson AN, Milbrandt TA. Stem Cell Physiologic Response following Local Vancomycin Application. *American Academy of Orthopedic Surgeons*, New Orleans, LA, March 6-10, 2018. Abstract #576.
- Coleman DS, Ballard A, Lewter NP, DeSchepper KM, **Lewallen EA**. The Relationship Between Gap Junction Proteins and Genes in Hypoplastic Left Heart Syndrome. *5th Annual IMPACT Research Symposium*. Mayo Clinic, Rochester, MN, February 10, 2018.
- Mayes C, Horodysky A, Bonin CA, Wiley S, Gibson D, **Lewallen EA**. Ecosystem Based Approaches to Modeling Fish Species Distributions in Chesapeake Bay. *Virginia Sea Grant Graduate Symposium*. Virginia Crossings, VA. February 9th, 2018.
- Maradit-Kremers H, Schleck CD, **Lewallen EA**, Larson D, Van Wijnen AJ, Lewallen DG. Diabetes Mellitus and hyperglycemia and the risk of aseptic loosening in THA and TKA. *American Association of Hip and Knee Surgeons*, Dallas TX, November 10-13, 2016. Abstract #AMCA-2792
- Schreiner MM, Thaler R, **Lewallen EA**, Deyle DR, Dietz AB, Lewallen DG, Windhager R, van Wijnen AJ: Modification of the extracellular matrix environment and epigenome enhances the osteogenic potential of adipose derived human mesenchymal stem cells. *Deutscher Kongress für Orthopädie und Unfallchirurgie*, Berlin, Germany, October 25-28, 2016. Abstract #DKOU16-1026.
- Lewallen EA**, Jones DL, Thaler R, Dudakovic A, Trousdale WH, Yao JJ, Xu W, Denbeigh J, Paradise CR, Gluscevic M, Salib CG, Soreide E, Kremers HM, Abdel MP, Cohen RC, Lewallen DG, van Wijnen AJ: Surface roughness of metal orthopedic implants alters the biology of human mesenchymal stromal cells. *Biomedical Engineering Society*, Minneapolis, MN, October 5-8 2016. Abstract #Fri-13.
- Lewallen EA**, Thaler R, Paradise CR, Dudakovic A, Gluscevic M, Soreide E, Denbeigh J, Jones DL, Samsonraj RM, Trousdale WH, Kremers HM, Abdel MP, Leong DT, Lewallen DG, van Wijnen AJ: Biological Response of Human Mesenchymal Stromal Cells to Orthopedic Implant Nanoparticles. *American Society for Bone and Mineral Research*, Atlanta, GA, September 16-19, 2016, Abstract #MO0151
- Paradise CR, Dudakovic A, Gluscevic M, Ahmed FS, **Lewallen EA**, Thaler R, van Wijnen AJ: Modulation of the histone H3K27 methyltransferase EZH2 stimulates WNT, PTH and BMP2-related paracrine signaling to promote osteogenesis. *American Society for Bone and Mineral Research*, Atlanta, GA, September 16-19, 2016, Abstract #FR0159.
- Thaler R, Schreiner M, **Lewallen EA**, Jones DL, Deyle DR, Dietz AB, Lewallen DG, van Wijnen AJ: Modulation of the extracellular matrix environment and epigenetic DNA methylation improves osteogenicity of human mesenchymal stromal cells. *American Society for Bone and Mineral*

Research, Seattle, WA, October 9-12, 2015. Abstract #SU0411.

Lewallen EA, Jones DL, Dudakovic A, Bonin CA, Getzlaf MA, Thaler R, Riester SM, Camilleri ET, Westendorf JJ, Dietz AB, Cohen RC, Lewallen DG, van Wijnen AJ: Mesenchymal cell-based biological enhancement of porous titanium orthopedic implants. *American Society for Bone and Mineral Research*, Seattle, WA, October 9-12, 2015. Abstract #SA0407.

Dudakovic A, Camilleri ET, Xu F, Riester SM, McGee-Lawrence ME, Bradley EW, Paradise CR, Thaler R, **Lewallen EA**, Hawse JR, Subramaniam M, Deyle DR, Larson AN, Lewallen DG, Stein GS, Montecino MA, Westendorf JJ, van Wijnen AJ: Bone-anabolic effects of histone methyltransferase EZH2 inhibition. *American Society for Bone and Mineral Research*, Seattle, WA, October 9-12, 2015. Abstract #FR0407.

Lewallen EA, Riester SM, Lin Y, Bonin CA, Jones DL, Camilleri ET, Galeano-Garces C, Qu W, Smith J, Larson AN, Karperien MJ, Stuart MJ, Westendorf JJ, Kakar S, Im H-J, Krych A, van Wijnen AJ: Molecular approaches to the screening and optimization of osteochondral allograft cartilage. *International Cartilage Repair Society*, Chicago, IL, May 8-11, 2015. Abstract #6659.

Dietz AB, Dudakovic A, Camilleri ET, **Lewallen EA**, Thaler R, Galeano Garces C, Jones DL, Paradise CR, Riester SM, van Wijnen AJ: Innovation of mesenchymal stem cell therapies by molecular landscaping and cell surface selection. *International Society for Cellular Therapy*, Las Vegas, NV, May 27–30, 2015. Abstract #101.

Dudakovic A, Xu F, Camilleri E, McGee-Lawrence M, **Lewallen EA**, Riester S, Hawse J, Stein G, Montecino M, Westendorf J, van Wijnen A: Epigenetic control of skeletal development by the histone methyltransferase EZH2. *American Society for Bone and Mineral Research*, Houston, TX, September 12-15, 2014. Abstract #1115.

Riester, S, Dudakovic A, **Lewallen EA**, Torres-Morra J, Camilleri E, Rose P, Yaszemski M, Sim F, Shives T, Kakar S, van Wijnen A: Diagnostic microRNA biomarkers differentiate benign osteoblastoma and malignant osteosarcoma. *American Society for Bone and Mineral Research*, Houston, TX, September 12-15, 2014. Abstract #SU0073.

Lewallen EA, Riester SM, Bonin CA, Dudakovic A, Camilleri ET, Larson AN, Krych AJ, Smith J, Kakar S, Westendorf JJ, Sampen HJ, van Wijnen AJ: A high resolution musculoskeletal gene expression atlas for characterizing bone and cartilage diseases. *American Society for Bone and Mineral Research*, Houston, TX, September 12-15, 2014. Abstract #SU0199.

Dudakovic A, Xu F, Camilleri E, McGee-Lawrence ME, **Lewallen EA**, Riester SM, Hawse JR, Stein GS, Montecino MA, Westendorf JJ, van Wijnen AJ: Histone Methyltransferase EZH2 as a Target for Bone Anabolic Therapy. *Mayo Clinic-Karolinska Institutet 20th Annual Scientific Meeting*, Rochester, MN, September 11-12, 2014.

Camilleri E, Riester S, Su Y, Dudakovic A, Parry J, Westendorf JJ, **Lewallen EA**, Kakar S, van Wijnen AJ: Down-regulation Of Collagen Synthesis And Loss Of Extra-cellular Matrix Adhesion Molecules In Anterior Cruciate Ligament From Osteoarthritic Patients. *Orthopaedic Research Society*, New Orleans, LA, March 15-18, 2014. Poster #263.

Lewallen EA, Pitman RL, Lovejoy NR: The relative abundance and distribution of flyingfishes (Exocoetidae) in the eastern tropical Pacific. *American Society of Ichthyologists and Herpetologists*, Providence, RI, July 7-11, 2010. Abstract #0787.

Lewallen EA, Pitman RL, Lovejoy NR: Does the Eastern Pacific Barrier limit epipelagic fish dispersal? A population genetic analysis of 3 flyingfish species (Exocoetidae) in the Pacific. *American Society of Ichthyologists and Herpetologists*, Portland, OR, July 22-27, 2009. Abstract #871.

Lewallen EA, Pitman RL, Kjartanson SK, Lovejoy NR: Phylogenetic systematics of flyingfishes (Exocoetidae): an epipelagic fish clade. *Canadian Society of Zoologists*, Toronto, ON, May 12-16, 2009. Abstract #EEE4-6.

Lewallen EA, Pitman RL, Kjartanson SK, Lovejoy NR: Phylogenetic systematics of flyingfishes (Exocoetidae). *American Society of Ichthyologists and Herpetologists*, Montreal, QC, July 23-28, 2008. Abstract #0272.

Lewallen EA: The genetic structure and isolation of leopard shark (*Triakis semifasciata*) populations in California waters: implications for management. *Orthopaedic Surgery and Trauma Society*, Cayman Brac, BWI, June 2007.

Lewallen EA, Bohonak AJ, Anderson TW: Population structure and dispersal of leopard sharks inferred from genetic and geospatial data. *Western Society of Naturalists*, Seaside, CA, November 17-20, 2005.

Lewallen EA, Bohonak AJ: Genetic population structure of the leopard shark (*Triakis semifasciata*). *American Society of Ichthyologists and Herpetologists*, Tampa, FL, 2005. Abstract #776861.

NEWSLETTERS AND REPORTS

- Ferguson K, **Lewallen E**, Hickmott L, Claridge D, Dunn C (2012, July) *Summer Newsletter*. Bahamas Marine Mammal Research Organization 2(3): 1-4.
- Lewallen E**, Cotton J, Salinas JC, Vázquez E, Ü A (2007, August 27-September 1) *Weekly Cruise Report 2: Dipnetting*. Stenella Abundance Research Line Transect and Ecosystem Survey (STARLITE).
- Hall C, Driscoll R, **Lewallen E** (2007, August 27-September 1) *Weekly Cruise Report 2: Oceanography*. Stenella Abundance Research Line Transect and Ecosystem Survey (STAR-LITE).
- Lewallen E**, Cotton J, Salinas JC, Vázquez E, Ü A, Driscoll R, Hall C (2007, September 2-8) *Weekly Cruise Report 3: Dipnetting*. Stenella Abundance Research Line Transect and Ecosystem Survey (STAR-LITE).
- Hall C, Driscoll R, **Lewallen E** (2007, September 2-8) *Weekly Cruise Report 3: Oceanography*. Stenella Abundance Research Line Transect and Ecosystem Survey (STAR-LITE).
- Lewallen E**, Cotton J, Salinas JC, Vázquez E, Ü A (2007, September 9-14) *Weekly Cruise Report 4: Dipnetting*. Stenella Abundance Research Line Transect and Ecosystem Survey (STAR-LITE)
- Lewallen E** (2002, September) *Scientific Cruise Report 2: Barrier reefs of the South Pacific Ocean*. Coral Sea Crossing, Makulu II, Reach the World Foundation.
- Lewallen E** (2002, August) *Scientific Cruise Report 1: Marine organisms in the open ocean*. Coral Sea Crossing, Makulu II, Reach the World Foundation.

MEDIA COVERAGE

HU newsletter: *Hampton University Students Attend Medical Symposium and Gain Knowledge for Future Career Goals*. July 25th, 2018. <http://news.hamptonu.edu/release/Hampton-University-Students-Attend-Medical-Symposium-and-Gain-Knowledge-for-Future-Career-Goals>

DMC newsletter: *IMPACT program encourages creative solutions to healthcare challenges*. May 9th, 2018. <https://dmc.mn/impact-program-encourages-creative-solutions-to-healthcare-challenges/>

Alpha Galileo: *Do Titanium Dioxide Particles from Orthopedic Implants Disrupt Bone Repair?* September 14th, 2017. <http://www.alphagalileo.org/ViewItem.aspx?ItemId=179000&CultureCode=en>

BBC Earth News: *How flyingfish got their wings*. November 29th, 2010. http://news.bbc.co.uk/earth/hi/earth_news/newsid_9232000/9232599.stm

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Fisheries Society
 National Technical Association
 Biomedical Engineering Society
 International Cartilage Research Society
 American Society for Bone and Mineral Research
 Orthopaedic Research Society / Orthopaedic Research and Education Foundation
 Canadian Society of Zoologists
 American Society of Ichthyologists and Herpetologists
 Western Society of Naturalists
 American Elasmobranch Society

INVITED EDITORIAL SERVICE

Current Molecular Biology reports - Guest Editor (12/15/2018 - present)
 Gene - Associate Editor (8/1/2018 - present)
 Progress in Oceanography
 Tissue Engineering
 BMC Musculoskeletal Disorders
 Annals of Biomedical Engineering
 PLOS ONE
 Gene

VOLUNTEER EXPERIENCE

2006-2012 Research Assistant, Southwest Fisheries Science Center, San Diego, CA
2003-2006 SCUBA Assistant, Wrigley Institute, Santa Catalina Island, CA
2002-2003 Science Coordinator and Underwater Photographer, Reach the World Foundation

MENTORING EXPERIENCE

2020-pres Arona Bender (Master's student, Hampton University)
2019-pres Dr. Tunde Adebola (Post-doctoral researcher, Hampton University)
2019-pres Josette McLean (Master's student, Hampton University)
2017-pres Janelle Layton (Undergraduate student, Hampton University)
2017-pres Kathryn Cruz (Undergraduate student, Hampton University)
2017-2019 Cristin Mayes (Master's student, Hampton University)
2016-2017 Jie J. Yao (Medical student, Mayo Clinic)

GRANT REVIEW

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