

CURRICULUM VITAE
Susan H. Williams

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Education

2004	Ph.D., Biological Anthropology and Anatomy	Duke University
1994	B.A., Anthropology and Spanish	Bryn Mawr College

Professional Appointments

2012-present	Professor, Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
2011-2012	Associate Professor, Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
2005-2011	Assistant Professor, Department of Biomedical Sciences, Ohio University College of Osteopathic Medicine
2003-2005	Instructor, Department of Biomedical Sciences, Ohio University

Fellowships and Awards

2013	Outstanding Basic Science Faculty, Distinguished Osteopathic Commitment Teaching Award, Ohio University College of Osteopathic Medicine
2013	Outstanding Research Mentor, Distinguished Osteopathic Commitment Teaching Award, Ohio University College of Osteopathic Medicine
2009	Dean's Standard of Excellence Award, Ohio University College of Osteopathic Medicine
2009	Distinguished Osteopathic Commitment Teaching Award, Ohio University College of Osteopathic Medicine
2006	Dean's Research Award, Ohio University College of Osteopathic Medicine
2003	Ford Foundation Dissertation Fellowship
1998-2001	Ford Foundation Predoctoral Fellowship

RESEARCH

Research Interests

Craniofacial biomechanics, craniofacial development and evolution, evolution of feeding motor patterns, oromotor kinematics and control, oral sensorimotor integration, feeding ecophysiology

Publications-Refereed Papers (†, corresponding author; *undergraduate co-author; **graduate student co-author)

- 46 Davis, JS** and **SH Williams**. 2018. The influence of diet on masticatory motor patterns in musteloid carnivorans: an analysis of jaw adductor activity in ferrets (*Mustela putorius furo*) and kinkajous (*Potos flavus*) *Journal of Experimental Zoology Part A - Ecological and Integrative Physiology*. doi: 10.1002/jez.2141
- 45 Montuelle SJ, R Olson**, H Curtis, J Sidote, and **SH Williams**. 2018. Flexibility of feeding movements in pigs: effects of changes in food toughness and stiffness on the timing of jaw movements. *Journal of Experimental Biology* 221. jeb168088 doi: 10.1242/jeb.168088
- 44 Thompson CL, B Powell, **SH Williams**, G Hanya, KE Glander, and CJ Vinyard. 2017. Thyroid hormone fluctuations indicate a thermoregulatory function in both a tropical (*Alouatta palliata*) and seasonally cold-habitat (*Macaca fuscata*) primate. *American Journal of Primatology*. <http://doi.org/10.1002/ajp.22714>
- 43 Stover K, JV Sidote and **SH Williams**†. 2017. An ontogenetic perspective on symphyseal fusion, occlusion and mandibular loading in alpacas (*Vicugna pacos*). *Zoology* 124: 95–105. doi: 10.1016/j.zool.2017.06.006
- 42 Mahato NK**, SJ Montuelle, C Goubeaux, J Cotton, **SH Williams**, J Thomas, and B Clark. 2017. Quantification of Intervertebral Displacement with a Novel MRI-Based Modeling Technique: Assessing Accuracy and Reliability with a Porcine Spine Model. *Magnetic Resonance Imaging* doi: 10.1016/j.mri.2016.12.022
- 41 Thompson CL, C Scheidel, KE Glander, **SH Williams**, and CJ Vinyard. 2017. An assessment of skin temperature gradients in a tropical primate using infrared thermography and subcutaneous implants. *Journal of Thermal Biology*. 63:49-57. doi: 10.1016/j.jtherbio.2016.11.005
- 40 Thompson CL, **SH Williams SH**, KE Glander and CJ Vinyard. 2016. Measuring microhabitat temperature in arboreal primates: A comparison of on-animal and stationery approaches. *International Journal of Primatology*. 37(4):495-517. doi: 10.1007/s10764-016-9917-x
- 39 Mahato NK**, SJ Montuelle, J Cotton, SH Williams, J Thomas, and B Clark. 2016. Development of a Morphology-based Modeling Technique for Tracking Solid-Body Displacements: Examining the Reliability of a Potential MRI-only Approach for Joint Kinematics Assessment. *BMC Medical Imaging*. 16(1):38. doi: 10.1186/s12880-016-0140-1.
- 38 Druzinsky RE, JP Balhoff, AW Crompton, J Done, RZ German, MA Haendel, A Herrel, SW Herring, H Lapp, PM Mabee, H-M Mueller, CJ Mungall, PW Stemberg, K Van Auken, CJ Vinyard, **SH Williams**, and CE Wall. 2016. Muscle Logic: New Knowledge Resource for Anatomy Enables Comprehensive Searches of the Literature on the Feeding Muscles of Mammals. *PLOS One* 11(2): e0149102. doi:10.1371/journal.pone.0149102.
- 37 **Williams SH**†, NR Lozier, SJ Montuelle and S de Lacalle. 2015. Effect of postnatal myostatin inhibition on bite mechanics in mice. *PLoS ONE* 10(8): e0134854. doi:10.1371/journal.pone.0134854.
- 36 Montuelle SJ and **SH Williams**. 2015. In vivo measurement of mesokinesis in *Gekko gecko*: the role of cranial kinesis during gape display, biting and feeding. *PLoS ONE* 10(7): e0134710. doi:10.1371/journal.pone.0134710.

- 35 O'Brien HD** and **SH Williams**. 2014. Using Biplanar Fluoroscopy to Guide Radiopaque Vascular Injections: A New Method for Vascular Imaging. *PLoS ONE* 9(5): e97940. doi:10.1371/journal.pone.0097940.
- 34 Thompson CL, **SH Williams**, KE Glander, MF Teaford, CJ Vinyard. 2014. Body temperature and thermal environment in a generalized arboreal anthropoid, wild mantled howling monkeys (*Alouatta palliata*). *American Journal of Physical Anthropology* 154:1-10.
- 33 Chen Y, **SH Williams**, AL McNulty, JH Hong, SH Lee, NE Rothfusz, PK Parekh, C Moore, RW Gereau 4th, AB Taylor, F Wang, F Guilak, W Liedtke. 2013. Temporomandibular joint pain: a critical role for Trpv4 in the trigeminal ganglion. *Pain* 154:1295-1304.
- 32 Vinyard, CJ, KE Glander, MF Teaford, CL Thompson, M Deffenbaugh, **SH Williams**. 2012. Methods for developing an ecological physiology of feeding in free-ranging howling monkeys (*Alouatta palliata*) at La Pacifica, Costa Rica. *International Journal of Primatology* 33: 611-631.
- 31 Vinyard, CJ, AB Taylor, MF Teaford, KE Glander, MJ Ravosa, JB Rossie, TM Ryan, **SH Williams**. 2011. Are we looking for loads in all the right places? New research directions for studying the masticatory apparatus of New World monkeys. *Anatomical Record* 294: 2140-2157.
- 30 **Williams, SH**[†], KK Stover*, JS Davis**, SJ Montuelle. 2011. Mandibular corpus bone strains during mastication in goats (*Capra hircus*): a comparison of ingestive and rumination chewing. *Archives of Oral Biology* 56: 960-971.
- 29 Hylander WL, CJ Vinyard, CE Wall, **SH Williams**, KR Johnson. 2011. Functional and Evolutionary Significance of the Recruitment and Firing Patterns of the Jaw Adductors during chewing in Verreaux's sifaka (*Propithecus verreauxi*). *American Journal of Physical Anthropology* 145: 531-547.
- 28 Konow, NK, A Herrel, CF Ross, **SH Williams**, RZ German, CPJ Sanford, C Gintof. 2011. Evolution of Muscle Activity Patterns Driving Motions of the Jaw and Hyoid during Chewing in Gnathostomes. *Integrative and Comparative Biology* 51: 235-246.
- 27 Stover KK* and **SH Williams**[†]. 2011. Intraspecific scaling of chewing cycle duration in three species of domestic ungulates. *Journal of Experimental Biology* 214: 104-112.
- 26 Vinyard, CJ, **SH Williams**, CE Wall, AH Doherty, AW Crompton, WL Hylander. 2011. A preliminary analysis of correlations between chewing motor patterns and mandibular morphology across mammals. *Integrative and Comparative Biology* 51: 260-270.
- 25 Wall, CE, CJ Vinyard, **SH Williams**, V Gapayev, X Liu, H Lapp, RZ German. 2011. Overview of the Feeding Experiments End-user Database (FEED). *Integrative and Comparative Biology* 51: 215-223.
- 24 **Williams**[†], **SH**, CJ Vinyard, CE Wall, AH Doherty**, AW Crompton, WL Hylander. 2011. A preliminary analysis of correlated evolution in mammalian chewing motor patterns. *Integrative and Comparative Biology* 51:247-259.
- 23 Davis JS**, CW Nicolay and **SH Williams**. 2010. A comparative study of incisor procumbency and mandibular morphology in vampire bats. *Journal of Morphology* 271: 853-862.
- 22 Ravosa MJ, CF Ross, DB Costley and **SH Williams**. 2010. Allometry of masticatory loading parameters in mammals. *Anatomical Record* 293: 557-571.
- 21 **Williams SH**[†], JV Sidote* and KK Stover*. 2010. Occlusal development and masseter activity in alpacas (*Lama pacos*). *Anatomical Record* 293: 126-134.

- 20 **Williams SH**[†], E Peiffer* and S Ford*. 2009. Gape and bite force in the rodents *Onychomys leucogaster* and *Peromyscus maniculatus*: does jaw-muscle anatomy predict performance? *Journal of Morphology* 270:1338-1347.
- 19 **Williams SH**[†], CJ Vinyard, CE Wall and WL Hylander. 2009. Mandibular corpus bone strain in goats and alpacas: Implications for understanding the biomechanics of mandibular form in selenodont artiodactyls. *Journal of Anatomy* 214: 65-78.
- 18 Vinyard CJ, CE Wall, **SH Williams**, AL Mork, BA Garner, LCO Melo, MM Valença-Montenegro, YBM Valle, MA Monteiro da Cruz, PW Lucas, D Schmitt, AB Taylor and WL Hylander. 2009. The evolutionary morphology of tree gouging in marmosets. In LC Davis, SM Ford and LM Porter (eds.) *The Smallest Anthropoids: The Marmoset/Callimico Radiation*. Springer: New York. 395-410.
- 17 **Williams SH**[†], CJ Vinyard, K Glander, M Deffenbaugh, M Teaford and C Thompson**. 2008. Telemetry system for assessing jaw-muscle function in free-ranging primates. *International Journal of Primatology* 29:1441-1453.
- 16 **Williams SH**[†], CE Wall, CJ Vinyard and WL Hylander. 2008. Symphyseal fusion in selenodont artiodactyls: new insights from *in vivo* and comparative data. In CJ Vinyard, MJ Ravosa and CE Wall (eds.) *Primate Craniofacial Function and Biology*. Springer: New York, p. 39-61.
- 15 Vinyard CJ, CE Wall, **SH Williams**, and WL Hylander. 2008. Patterns of variation in jaw-muscle electromyography during mastication across primates. *Integrative and Comparative Biology* 48:294-311.
- 14 Wall CE, CJ Vinyard, **SH Williams**, KR Johnson and WL Hylander. 2008. Specialization of the superficial anterior temporalis for mastication of hard foods in baboons. In CJ Vinyard, MJ Ravosa and CE Wall (eds.) *Primate Craniofacial Function and Biology*. Springer: New York, p. 113-124.
- 13 Ross CF, A Eckhardt, A Herrel, WL Hylander, KA Metzger, V Schaerlaeken, RL Washington and **SH Williams**. 2007. Modulation of intra-oral processing in mammals and lepidosaurs. *Integrative and Comparative Biology* 47:118-136.
- 12 Ross CF, R Dharia, SW Herring, WL Hylander, ZJ Liu, KL Rafferty, MJ Ravosa and **SH Williams**. 2007. Modulation of mandibular loading and bite force in mammals during mastication. *Journal of Experimental Biology* 210: 1046-1063.
- 11 **Williams SH**[†], CJ Vinyard, CE Wall and WL Hylander. 2007. Masticatory motor patterns in ungulates: a quantitative assessment of jaw-muscle coordination in goats, alpacas and horses. *Journal of Experimental Zoology Part A: Comparative Experimental Biology* 307A: 226-240.
- 10 Vinyard CJ, MJ Ravosa, **SH Williams**, CE Wall, KR Johnson and WL Hylander. 2007. Jaw-muscle function and the origins of primates. In *Primate Origins: Adaptations and Evolution*. MJ Ravosa and M Dagosto (eds.). New York: Springer. pp. 179-231.
- 9 Vinyard CJ, CE Wall, **SH Williams**, KR Johnson and WL Hylander. 2006. Masseter electromyography during chewing in ring-tailed lemurs (*Lemur catta*). *American Journal of Physical Anthropology* 130: 85-95.
- 8 Wall CE, CJ Vinyard, KR Johnson, **SH Williams** and WL Hylander. 2006. Phase II jaw movements and masseter muscle activity during chewing in *Papio anubis*. *American Journal of Physical Anthropology* 129: 215-224.
- 7 **Williams SH**[†], BW Wright, VD Truong, CR Daubert and CJ Vinyard. 2005. The mechanical properties of foods used in experimental studies of primate masticatory function. *American Journal of Primatology* 67:329-346.

- 6 Vinyard CJ, **SH Williams**, CE Wall, KR Johnson and WL Hylander. 2005. Jaw-muscle electromyography during chewing in Belanger's Treeshrews (*Tupaia belangeri*). *American Journal of Physical Anthropology* 127:26-45.
- 5 Hylander WL, CE Wall, CJ Vinyard, C Ross, MJ Ravosa, **SH Williams** and KR Johnson. 2005. Temporalis function in anthropoids and strepsirrhines: an EMG study. *American Journal of Physical Anthropology* 128:35-56.
- 4 Vinyard CJ, CE Wall, **SH Williams** and WL Hylander. 2003. A comparative functional analysis of skull morphology of tree-gouging primates. *American Journal of Physical Anthropology* 120:153-170.
- 3 Vinyard CJ, CE Wall, **SH Williams**, D Schmitt and WL Hylander. 2001. A preliminary report on the jaw mechanics during tree gouging in common marmosets (*Callithrix jacchus*). In *Dental Morphology*. A Brooks (ed.). Sheffield: Sheffield Academic Press Ltd. pp. 283-297.
- 2 **Williams SH**[†], CE Wall, CJ Vinyard and WL Hylander. 2002. A biomechanical analysis of skull form in gum-harvesting galagids. *Folia Primatologica* 73:197-209.
- 1 **Williams SH**[†] and RF Kay. 2001. A comparative test of adaptive explanations for hypsodonty in ungulates and rodents. *Journal of Mammalian Evolution* 8:207-229.

Published Abstracts and Contributed Presentations (2003-present only; *undergraduate presenter; †presenter)

- 46 Croghan, JA, WM Roosenburg and SH Williams. Inter- Versus Intraspecific Variation in Testudine Crania Using a Population of Diamondback Terrapins (*Malaclemys terrapin*). Annual Meeting of the Society for Integrative and Comparative Biology. San Francisco, CA, Jan 3-7, 2018.
- 45 Klimovich CM and SH Williams. Investigations into the physiological and biomechanical basis of differential success in oral rabies vaccination between skunks (*Mephitis mephitis*) and raccoons (*Procyon lotor*). Annual Meeting of the Society for Integrative and Comparative Biology. San Francisco, CA, Jan 3-7, 2018.
- 44 Montuelle SJ, R Olson, JS Davis, H Curtis and SH Williams. 2018. Pitch, Roll and Yaw: Hemimandible Movements and Symphyseal Function During Chewing in Musteloid Carnivorans. Annual Meeting of the Society for Integrative and Comparative Biology. San Francisco, CA, Jan 3-7, 2018.
- 43 Klimovich CM and SH Williams. Biting mechanics of rabies vectors: exploring the link between cranial morphology and infectious disease control. Annual meeting of the American Society of Mammalogists. Moscow, Idaho. June 20-24, 2017.
- 42 Olson RA, SJ Montuelle, SH Williams. Stereotypy and flexibility of jaw movements during feeding in pigs. Annual Meeting of the Society for Integrative and Comparative Biology. New Orleans, LA. Jan 4-8, 2017
- 41 Thompson CL, C Scheidel, SH Williams, KE Glander, and CJ Vinyard The Use of Infrared Thermal Imaging in Temperature Measurement and Behavioral Assessment: Effects of Thermal Windows. Measuring Behavior: 10th International Conference on Methods and Techniques in Behavioral Research May 25-27, 2016. Dublin, Ireland
- 40 Klimovich, C* and Williams SH. Biting mechanics of raccoons (*Carnivora: Procyon lotor*) and skunks (*Carnivora: Mephitis mephitis*): exploring the link between cranial morphology and infectious disease control. International Congress on Vertebrate Morphology. June 29-July 3, 2016, Bethesda, MD

- 39 Davis, JS, Klimovich, CM and Williams, SH. Masticatory jaw movements in two species of musteloid carnivorans with divergent dietary specializations: an XROMM and EMG study. International Congress on Vertebrate Morphology. June 29-July 3, 2016, Bethesda, MD
- 38 Druzinsky, RE, German, RZ, Haendel, MA, Herring, SW, Lapp, H, Muller, HM, Mungall, CJ, Sternberg, PW, Van Auken, K, Vinyard, CH, Wall, CE, Williams, SH. Exploring the value of anatomy ontologies: testing the Mammalian Feeding Muscle Ontology. International Congress on Vertebrate Morphology. June 29-July 3, 2016, Bethesda, MD
- 37 Williams SH. Mandibular loading, jaw-muscle activity and symphyseal performance: Elucidating the relationships among mastication, morphology and biomechanics of the mammalian jaw. Invited talk in Symposium: Symposium: Determinants of the mammalian feeding system design. International Congress on Vertebrate Morphology. June 29-July 3, 2016, Bethesda, MD
- 36 Montuelle SJ and Williams SH. Variability in jaw movements of goats in response to different foods. *Annual Meeting of the Society for Integrative and Comparative Biology*. Portland, OR Jan 3-7, 2016.
- 35 Montuelle SJ; Crane E; Davis JS; Williams SH. Gape cycle dynamics and omnivory: Is morphological generalization a 'one-size-fits-all' approach to food breakdown? *Annual Meeting of the Society for Integrative and Comparative Biology*. West Palm Beach, FL. Jan 3-7, 2015.
- 34 Crane E.; Gerstner GE.; Rothman E.; Montuelle SJ; Williams SH. Functional data analysis of mammalian feeding: What are we missing from traditional analyses of masticatory kinematics? *Annual Meeting of the Society for Integrative and Comparative Biology*. Austin, TX. Jan 3-7, 2014.
- 33 Davis JS and Williams SH. Masticatory Musculature of Dietsarily Diverse Musteloid Carnivorans. *Annual Meeting of the Society for Integrative and Comparative Biology*. Austin, TX. Jan 3-7, 2014.
- 32 Davis, SJ, Sidote J, Montuelle SJ, Wood R, Williams SH. 3D Kinematics and Muscle Activity Pattern During Mastication in Ferrets (*Mustela putorius furo*). Annual Meeting of the Society for Integrative and Comparative Biology. San Francisco, CA. Jan 3-7, 2013.
- 31 Druzinsky RE, Crompton AW, German RZ, Haendel MA, Herrel A, Herring SW, Lapp H, Mungall CJ, Vinyard, CJ, Williams SH, Wall, CE. The Feeding Experiments End-User Database (FEED): An ontology for the oro-pharyngeal muscles and behaviors of mammals. *International Congress on Vertebrate Morphology*. Barcelona, Spain. July 8-12, 2013.
- 30 O'Brien H, Williams SH. Using biplanar fluoroscopy to guide vascular injections: A new method for vascular imaging. *International Congress on Vertebrate Morphology*. Barcelona, Spain. July 8-12, 2013.
- 29 Montuelle SJ and Williams SH. In vivo measurement of cranial kinesis in *Gekko gekko* using XROMM methodology. *International Congress on Vertebrate Morphology*. Barcelona, Spain. July 8-12, 2013.
- 28 Montuelle SJ, Vessel C, Williams SH. In vivo measurement of cranial kinesis in *Gekko gekko* using XROMM methodology. *Annual Meeting of the Society for Integrative and Comparative Biology*. San Francisco, CA. Jan 3-7, 2013.
- 27 Montuelle SJ, Sidote J, Rettig M, Davis JS, Williams SH. Sensorimotor integration during feeding: Effects of transection of the lingual nerves on jaw movements during chewing in pigs. *Annual Meeting of the Society for Integrative and Comparative Biology*. San Francisco, CA. Jan 3-7, 2013.

- 26 Thompson CL, Williams SH, Glander KE, Teaford MF, and Vinyard CJ. Too hot, too cold, or just right: Thermal challenges facing mantled howling monkeys (*Alouatta palliata*) in a dry tropical forest. *82nd Annual Meeting of the American Association of Physical Anthropologists*. Knoxville, TN. April 9-13, 2013.
- 25 Montuelle SJ and Williams SH. Mobility of the mandibular symphysis during feeding in lizards. *Annual Meeting of the Society for Integrative and Comparative Biology*. Charleston, CA. Jan 3-7, 2012.
- 24 Konow, N, A Herrel, SH Williams, CF Ross, F De Vree, AW Crompton, RZ German, CPJ Sanford, C Gintof. Shifts in muscle activity patterns during the evolution of feeding in gnathostomes. *Annual Meeting of the Society for Integrative and Comparative Biology*. Salt Lake City, UT. Jan 3-7, 2011.
- 23 Wall, CE, CJ Vinyard, SH Williams, RZ German, V Gapayev, X Liu. Introduction: Overview of the Feeding Experiments End-User Database (FEED). *Annual Meeting of the Society for Integrative and Comparative Biology*. Salt Lake City, UT. Jan 3-7, 2011.
- 22 Vinyard CJ, AH Doherty, CE Wall, SH Williams, CF Ross, SW Herring, AW Crompton, WL Hylander. Patterns of functional integration in the mammalian masticatory apparatus. *Annual Meeting of the Society for Integrative and Comparative Biology*. Salt Lake City, UT. Jan 3-7, 2011.
- 21 Williams SH[†], CJ Vinyard, AW Crompton, WL Hylander. Patterns of jaw-muscle recruitment evolution in mammals. *Annual Meeting of the Society for Integrative and Comparative Biology*. Salt Lake City, UT. Jan 3-7, 2011.
- 20 Davis, JS and Williams, SH. The relationship between relative jaw size and shape and tooth size in selenodont artiodactyls. *Annual Meeting of the Society for Integrative and Comparative Biology*. Salt Lake City, UT. Jan 3-7, 2011.
- 19 Wall CE, V Gapeyev, RZ German, X Liu, CJ Vinyard and SH Williams. The Feeding Experiments End-user Database (FEED). *Annual Meeting of the Society for Integrative and Comparative Biology*. Seattle, WA. Jan 3-7, 2010.
- 18 Williams SH[†], J Sidote, KK Stover, JS Davis. The mechanical loading environment of the jaw during ingestive and rumination chewing in goats. *Annual Meeting of the Society for Integrative and Comparative Biology*. Seattle, WA. Jan 3-7, 2010.
- 17 Stover KK and SH Williams[†]. Intraspecific scaling of chewing cycle length and jaw-muscle activity in goats, alpacas and horses. *Annual Meeting of the Society for Integrative and Comparative Biology*. Seattle, WA. Jan 3-7, 2010.
- 16 Peiffer E*, S Ford and SH Williams. 2009. Gape and bite force in the northern grasshopper mouse (*Onychomys leucogaster*) and the deer mouse (*Peromyscus maniculatus*). *Annual Meeting of the Society for Integrative and Comparative Biology*. Boston, MA. Jan 3-7, 2009.
- 15 Stover KK* and SH Williams. 2009. Ontogeny and fusion of the mandibular symphysis in camelids. *Annual Meeting of the Society for Integrative and Comparative Biology*. Boston, MA. Jan 3-7, 2009.
- 14 Williams SH[†] and JV Sidote. 2008. Ontogeny of rhythmic chewing and masseter activity in a selenodont artiodactyl. *Annual Meeting of the Society for Integrative and Comparative Biology*. Boston, MA. Jan 3-7, 2009.
- 13 Williams SH[†], CJ Vinyard, KE Glander, M Deffenbaugh, MF Teaford and CL Thompson. 2007. A preliminary report on a new system for recording jaw-muscle electromyograms from free-ranging primates. *Journal of Morphology* 268:1150.

- 12 Williams SH[†], CJ Vinyard, KE Glander, MF Teaford, M Deffenbaugh and CL Thompson. 2007. A telemetry system for studying jaw-muscle activity in free-ranging primates: pilot data from howling monkeys (*Alouatta palliata*) at La Pacifica, Costa Rica. *American Journal of Physical Anthropology Supplement* 44:250.
- 11 Ross CF, A Eckhardt, A Herrel, KA Metzger, V Schaerlaecken, R Washington and SH Williams. 2007. The evolution of modulation of amniote chewing. *Annual Meeting of the Society for Integrative and Comparative Biology*. Phoenix, Arizona. Jan 3-7-2007.
- 10 Ross CF, SW Herring, Z-L Liu, KL Rafferty, WL Hylander, MJ Ravosa and SH Williams. 2006. How do mammals chew more forcefully? *Journal of Dental Research Special Issue B*. Annual Meeting of the International Association of Dental Research, Satellite Symposium on Mastication, Brisbane, Australia. June 26-27, 2006.
- 9 Vinyard CJ, CE Wall, SH Williams, KR Johnson and WL Hylander. 2006. Are jaw-muscle activity patterns correlated with masticatory apparatus morphology among primate species? *Annual Meeting of the Society for Integrative and Comparative Biology*. Orlando, FL. Jan 4-8, 2006.
- 8 Wall CE, M Briggs, F Schachat, CJ Vinyard, SH Williams and WL Hylander (2006) Anatomical and functional specializations of the anterior temporalis muscle of baboons as revealed by fiber type, fiber architecture, and EMG. *Annual Meeting of the Society for Experimental Biology*. Canterbury, UK. April 3-7.
- 7 Williams SH[†], CJ Vinyard, CE Wall and WL Hylander. 2006. Experimental observations on symphyseal fusion in selenodont artiodactyls. *Annual Meeting of the Society for Integrative and Comparative Biology*. Orlando, FL. Jan 4-8, 2006.
- 6 Williams SH[†] and WL Hylander. 2004. Mandibular form and masticatory bone strain in alpacas. *Journal of Morphology* 260: 340
- 5 Williams SH[†], CJ Vinyard, CE Wall and WL Hylander. 2004. Masticatory strains in the mandibular corpora of selenodont artiodactyls. *Integrative and Comparative Biology Abstract Volume*: 282
- 4 Hylander WL, CJ Vinyard, CE Wall, SH Williams and KR Johnson. 2003. Convergence of the "wishboning" jaw-muscle activity pattern in anthropoids and strepsirrhines: the recruitment and firing of jaw muscles in *Propithecus verreauxi*. *American Journal of Physical Anthropology Supplement* 36:120.
- 3 Williams SH[†], CJ Vinyard, CE Wall and WL Hylander. 2003. Strain in the mandibular symphysis of alpacas and the evolution of symphyseal fusion in camelids. *Journal of Vertebrate Paleontology Supplement* 23:110A.
- 2 Williams SH[†], CJ Vinyard, CE Wall and WL Hylander. 2003. Symphyseal fusion in ungulates and anthropoids: a case of functional convergence? *American Journal of Physical Anthropology Supplement* 36:226.
- 1 Williams SH[†], CE Wall, CJ Vinyard and WL Hylander. 2003. Jaw-muscle motor patterns in ungulates: Is there a transverse pattern? *Integrative and Comparative Biology Abstract Volume* 42:1336.

Invited Seminars and Symposium Presentations

- 2017 "Chewing it over: exploring dynamic interactions between feeding form and function in mammals." Ecology and Evolutionary Biology Seminar Series, Brown University April 4, 2017.

- 2016 “Mandibular loading, jaw-muscle activity and symphyseal performance: Elucidating the relationships among mastication, morphology and biomechanics of the mammalian jaw.” Invited talk in Symposium: Symposium: Determinants of the mammalian feeding system design. International Congress on Vertebrate Morphology. June 29-July 3, 2016, Bethesda, MD
- 2015 “Evolution and variability in mammalian feeding dynamics: Experimental insights from across the Class” EvMorph Seminar Series, Department of Organismal Biology and Anatomy, University of Chicago May 28, 2015.
- 2011 “The ontogeny of feeding: physiological correlates of growth and development in an animal model.” Department of Oral Biology Seminar Series. The Ohio State University College of Dentistry, Columbus, OH. November 9, 2011.
- 2011 “Ontogeny of Jaw-muscle Function, Occlusion and Mandibular Form in Camelid Artiodactyls”. Department of Anatomy and Neurobiology, Northeastern Ohio Universities Colleges of Medicine and Pharmacy, Rootstown, OH. May 5, 2011.
- 2010 “Ontogenetic Changes in Jaw-muscle Function in Artiodactyls: Physiological Correlates of Tooth Occlusion and Mandibular Growth”. Oral Health Sciences Seminar Series, University of Michigan School of Dentistry, Ann Arbor. September 23, 2010.
- 2010 “The ontogeny of feeding: unraveling the functional relationship between jaw-muscle coordination, tooth eruption and jaw growth during development using a novel animal model”. Department of Biological Sciences, Bowling Green State University.
- 2007 “Investigations into the Biomechanics of Feeding: Linking Form, Function and Evolution in the Mammalian Masticatory Apparatus”. Shawnee State University, Tri-Beta Biology Club.
- 2005 "The ecomorphology of mammalian herbivory: new insights into old problems". Instituto de Ciencias Biologicas, Escuela Politecnica Nacional, Quito, Ecuador.
- 2005 “*In vivo* data provide insights into alternative explanations of symphyseal fusion in mammals: the case of the selenodont artiodactyls”. Invited Symposium Participant. Annual Meeting of the American Association of Physical Anthropologists, Milwaukee, WI.
- 2004 "Mastication, motor patterns and mandibular morphology in mammals". Department of Anatomical Sciences, State University of New York at Stony Brook.

Grants-Federal (2005-present only)

- 2015-2018 National Science Foundation – Integrative Organismal Systems. COLLABORATIVE RESEARCH: The evolutionary significance of variability in mammalian chewing: influence of dietary specialization and oral afferents on jaw and hyolingual movement. **PI: SH Williams.** \$438,759 (OU portion only).
- 2014-2018 National Institutes of Health – National Institute of Dental and Craniofacial Research. Effect of Lingual Nerve Injury on Oromotor Function. **PI: SH Williams.** \$445,500.
- 2011-2014 National Science Foundation – Division of Biological Infrastructure. COLLABORATIVE RESEARCH: The Feeding Experiments End-user Database (FEED): An open-access database for integrated evolutionary analyses of mammalian feeding. **PI: SH Williams.** Other PIs: CE Wall, RZ German, R Druzinsky, CJ Vinyard. \$69,718 (OU portion only).
- 2011-2012 National Science Foundation – Integrative Organismal Systems (IOS-1050313).

Symposium Proposal: Synthesis of Physiologic Data from the Mammalian Feeding Apparatus using FEED, the Feeding Experiments End-User Database. **PI: SH Williams**. Co-PIs: CJ Vinyard, CE Wall, RZ German. \$13,500.

- 2009-2012 National Science Foundation – Division of Biological Infrastructure (DBI-0922988). MRI: Acquisition of Instrumentation for Comparative Biomechanics Research. **PI: SH Williams**. Co-PIs: N Stevens, A Biknevičius, S Reilly. \$401,083.
- 2009-2012 National Science Foundation – Division of Earth Sciences (EAR-0933619). Early Career: Acquisition of Paleobiological Specimen Preparation and Imaging Facility PI: N Stevens. Co-PIs: PM O'Connor, **SH Williams**. \$180,000.
- 2007-2011 National Science Foundation – Behavioral and Cognitive Sciences (BCS-0720025 and BCS-0720028). Collaborative Research: Ecological and functional morphology of feeding in free-ranging mantled howling monkeys. **PIs: SH Williams** and CJ Vinyard. Co-PIs: KE Glander, MF Teaford. \$97,984 (OU portion only).
- 2005-2010 National Science Foundation – Integrative Organismal Systems (IOS-0520855). Craniofacial Biomechanics in Camelids: In vivo and Comparative Studies in Form and Function. **PIs: SH Williams**. \$181,277.
- 2005-2007 National Science Foundation – Behavioral and Cognitive Sciences (BCS-0507074). High Risk Research: Jaw-muscle electromyography during chewing in free-ranging mantled howling monkeys at La Pacifica, Costa Rica: A pilot study. **PI: SH Williams**. Co-PIs: CJ Vinyard, KE Glander. \$8,694.

Grants-State, University, Other (2003-Present Only)

- 2012-2013 Ohio University Baker Award. Ecological Physiology of feeding in mantled howling monkeys at La Pacifica. **PI: SH Williams**.
- 2012-2014 Ohio University Heritage College of Osteopathic Medicine. Post-doctoral Associate funding award. **PI: SH Williams**.
- 2012-2014 Research and Scholarly Affairs Committee. Ohio University Heritage College of Osteopathic Medicine. Variability in the integration of tongue, jaw and hyoid movements in mammalian herbivores and carnivores. **PI: SH Williams**.
- 2011-2012 Ohio Musculoskeletal and Neurological Institute. Effect of lingual nerve injury on the coordination of tongue, jaw and hyoid movements during feeding. **PI: SH Williams**.
- 2010-2012 Research and Scholarly Affairs Committee. Ohio University Heritage College of Osteopathic Medicine. Symphyseal mobility during feeding in mammals and lizards. **PI SH Williams**.
- 2009-2010 Ohio Board of Regents. Acquisition of Biomechanics Instrumentation for the Ohio University Large Animal Research Facility. **PI: SH Williams**. Co-PIs: NJ Stevens, A Biknevičius.
- 2008-2011 National Evolutionary Synthesis Center. Analysis and Synthesis of Physiologic Data from the Mammalian Feeding Apparatus. PI: C Wall. Co-PIs: SH Williams, R German, C Vinyard.
- 2008-2010 Research and Scholarly Affairs Committee Training Award. In vitro and molecular techniques for characterizing physiological heterogeneity in mammalian jaw-muscles. With Dr. Peter Reiser, Dept. of Oral Biology, College of Dentistry, Ohio State University. **PI: SH Williams**.

- 2007-2008 Ohio University Research Challenge Award. Ecological and functional morphology of feeding in free-ranging mantled howling monkeys. **PI: SH Williams.**
- 2006-2007 Research and Scholarly Affairs Committee. Ohio University College of Osteopathic Medicine, Development of a Hard Tissue Histology Lab. **PI: SH Williams.**
- 2006-2007 Ohio University Research Committee. Food mechanical properties and jaw-muscle activity in wild free-ranging howler monkeys (*Alouatta palliata*): a pilot study. PI: SH Williams.
- 2006-2008 Ohio University 1804 Fund. Construction of a Large Animal Research Facility at Ohio University. **PI: SH Williams.** Co-PIs: A Biknevicius, N Stevens, L Witmer, B Sindelar, S Reilly.
- 2005-2006 Ohio University Research Challenge Award. Craniofacial Biomechanics in Camelids: In vivo and Comparative Studies in Form and Function. **PI: SH Williams.**

TEACHING and ADVISING

Medical Education – Ohio University College of Osteopathic Medicine, Athens, OH

- 2017-present Team Member, Chronic Illness Course, Pathways to Health and Wellness Curriculum
- 2016-present Lead Anatomist-Athens, EENT Block, Clinical Presentation Continuum
- 2005-2016 Course Director and Head Anatomist, Gross Anatomy, Patient Centered Curriculum
- 2005-2007 Lecturer, Clinical Presentation Curriculum
Block Team Member, Clinical Presentation Curriculum
- 2003-2005 Lab Instructor, Clinical Gross Anatomy, Patient Centered Curriculum

Undergraduate & Graduate Courses & Research Training Activities – College of Arts & Sciences, Ohio University, Athens, OH

- 2009-present BIOS 659 Clinical Anatomy II, Biological Sciences Graduate Program
BIOS 660 Clinical Anatomy III, Biological Sciences Graduate Program
- 2007-present Instructor, Honor Tutorial College Program, Biological Sciences
- 2008-2009 BIOS 493 Undergraduate Research, Biological Sciences
- 2004-2008 BIOS 682 Advanced Topics in Anatomy, Biological Sciences

Postdoctoral Associate, Graduate Student and Undergraduate Advising and Committees

Primary Advisor – Postdoctoral, PhD and MS

- Stephane Montuelle, Postdoctoral Associate, Biomedical Sciences, Ohio University (2010-present)
- Rachel Olson, PhD Student Biological Sciences, Ohio University (2014-present)
- Jasmine Croghan, PhD Student, Biological Sciences, Ohio University (2013-present)
- Jillian S. Davis, PhD Student, Biological Sciences, Ohio University (2008-2014)
- Seham Ben Amer, M.S. Student, Biological Sciences, Ohio University (2009-2012)

*Primary Advisor or Research Mentor – Undergraduate (*Honors Tutorial College Thesis Student)*

- *Emma Chubb, Biological Sciences, Honors Tutorial College, Ohio University (current)
- *Kimberly Zehnder, Biological Sciences, Honors Tutorial College, Ohio University (current)
- *Charlotte Klimovich, Biological Sciences, Honors Tutorial College, Ohio University (2017)
- Ryan Markowitz (current)
- Regan Falin (current)

Eric Armbrrecht (current)
Katie Oldenburg (current)
Adrienne Crabtree (current)
Ettiene Toledo (current)
Devine Ordich (current)
Alyx Hazen (2016-2017)
Alex Schumacher (2016-2017)
Madeline Stack (2016-2017)
*Kristin K. Stover, Biological Sciences, Honors Tutorial College, Ohio University (2006-2009)
Sonya Ford (2007-2010)
Erika Peiffer, Biological Sciences, Ohio University (2007-2009)

Committee Member (M.S. and Ph.D. only)

Ashely Morhardt, PhD. 2016, Biological Sciences, Ohio University
Niladri Mahato, PhD. 2016, Biological Sciences, Ohio University
Haley O'Brien, Ph.D. 2016, Biological Sciences, Ohio University
Taeok Park, PhD School of Rehabilitation and Communication Sciences, Ohio University
Beth Oomen, PhD 2013, School of Rehabilitation and Communication Sciences, Ohio University
Michael Jorgensen, PhD 2013, Biological Sciences, Ohio University
Verne Simons, M.S. 2007, Biological Sciences, Ohio University
Erin Rasmusson, Ph.D. 2009, Biological Sciences, Ohio University
David Dufeu, Ph.D. 2011, Biological Sciences, Ohio University
Joseph Daniel, Ph.D. 2012, Biological Sciences, Ohio University
Justin Tickhill, M.S. 2008, Biological Sciences, Ohio University

SERVICE

Grant Review and Panel Service

2018 Austrian Science Foundation – Biological and Medical Sciences Ad Hoc Reviewer
2017 Study Section, Oral, Dental, and Craniofacial Sciences, National Institutes of Health
2016 Panel Member, National Science Foundation, Integrative Organismal Systems
2014 The Leakey Foundation
2013, 2014 National Science Foundation, Social, Behavioral and Cognitive Sciences
2010 Ad Hoc Reviewer, National Science Foundation, Behavioral and Cognitive Sciences
2010 Panel Member, National Science Foundation, Integrative Organismal Systems
2009 Panel Member, National Science Foundation, Biological Infrastructure
2008 Panel Member, National Science Foundation, Integrative Organismal Systems
2006-2009 Ad Hoc Reviewer, National Science Foundation, Integrative Organismal Systems

Advisory Boards

Advisory Committee, National Evolutionary Synthesis Center
Chair, 2015-2016
Member, 2012-2015

X-ray Reconstruction Of Moving Morphology Research Coordination Network Steering Committee

Journal Review Service

American Journal of Physical Anthropology
American Journal of Primatology
Archives of Oral Biology
Biology Letters

Biological Reviews
Canadian Journal of Zoology
Dysphagia
Functional Ecology
Integrative and Comparative Biology
International Journal of Primatology
Journal of Anatomy
Journal of Experimental Biology
Journal of Experimental Zoology
Journal of Mammalian Evolution
Journal of Mammalogy
Journal of Morphology
Journal of Neurophysiology
Journal of Texture Studies
Mammalian Biology
Paleobiology
Physiology and Behavior
Zoology

Professional Organizations

American Association of Physical Anthropologists, Member since 1997

International Association for Dental Research, Member since 2005

Society for Integrative and Comparative Biology, Member since 1999

Program Officer, 2018-2020

Secretary, Division of Vertebrate Morphology, 2012-2014

Member, Broadening Participation Committee, 2012-2015

Symposium Organizer, Jan. 2011 Annual Meeting

Session Chair, Jan. 2010 Annual Meeting

Student Prize Judge, Division of Vertebrate Morphology, 2008, 2010

Society for Vertebrate Paleontology, Member since 1999

University, College and Department Committees and Service

2017-present Co-Chair, Executive Vice President and Provost Search Committee, Ohio University

2017-present Member, Search Committee, Vice President for University Advancement, Ohio University

2017-present Member, Ohio University Budget Model Committee

2016-present Faculty Representative, Ohio University Board of Trustees

2016-present Member, Ohio University Budget Planning Council

2016-present Co-Chair, Ohio University Benefits Advisory Committee

2016-present Member, Ohio University Facilities and Planning Advisory Committee

2016-present Member, Budget Subcommittee, Ohio University Heritage College of Osteopathic Medicine

2015-2017 Research and Scholarly Affairs Committee, Ohio University College of Osteopathic Medicine

- 2015-2016 Chair, Search Committee (2 faculty searches), Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
- 2015-2016 Member, Promotion and Tenure Revision Committee, Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
- 2015-2016 Chair, Promotion Committee, Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
- 2014-present Senator, Ohio University Faculty Senate
 - 2016-present Chair, Faculty Senate Facilities and Finance Committee
 - 2015-2016 Interim Chair, Faculty Senate Professional Relations Committee
 - 2015-2016 Ad Hoc Committee on On-line teaching
 - 2014-2015 Member, Professional Relations Committee
- 2014-2016 Member, Executive Committee, Ohio University Heritage College of Osteopathic Medicine
- 2014-2016 Elected Faculty Officer, Ohio University Heritage College of Osteopathic Medicine
 - 2015-2016 Secretary, Ohio University Heritage College of Osteopathic Medicine
- 2013-present Advanced Studies Advisory Committee, Ohio University Heritage College of Osteopathic Medicine
- 2011-2013 Vision 2020 Research and Graduate Programs Leadership Team, Ohio University Heritage College of Osteopathic Medicine
- 2011-2013 Member, Interdisciplinary Council, Ohio University
- 2011-2012 Elected Faculty Chair, Ohio University Heritage College of Osteopathic Medicine
- 2010-2013 Chair's Advisory Committee, Department of Biomedical Sciences, Ohio University Heritage College of Osteopathic Medicine
- 2010-present Biological Sciences Graduate Committee, Ohio University
 - 2010-2016 Chair, Biomedical Sciences Graduate Committee, Ohio University Heritage College of Osteopathic Medicine
- 2011-2012 Faculty Search Committee, Ohio Musculoskeletal and Neurological Institute, Ohio University Heritage College of Osteopathic Medicine
- 2010-2012 Executive Committee, Ohio University Heritage College of Osteopathic Medicine
- 2010-2012 Student Selection Committee, Ohio University Heritage College of Osteopathic Medicine
- 2008-2009 Research Grant Coordinator Search Committee, Ohio University College of Osteopathic Medicine
- 2008-present Committee for Multi-Cultural Medical Education, Ohio University College of Osteopathic Medicine
- 2008-2009 Dean's Evaluation Committee
- 2008-2011 Judge, Ohio University College of Osteopathic Medicine Research Day
- 2007-2008 Vice President for Research and Dean of the Graduate School Search Committee, Ohio University
- 2005-present Patient-Centered Continuum Steering Committee, Ohio University College of Osteopathic Medicine

- 2007-2010 Chair, Research and Scholarly Affairs Committee, Ohio University College of Osteopathic Medicine
- 2006-2007 Research and Scholarly Affairs Committee, Ohio University College of Osteopathic Medicine

Outreach Activities and Presentations

- Dec, 2016 Lab Tour, AP Biology Students, Wellston High School
- July, 2013 Young Scholars Ohio Workshop Leader
- Spring, 2010 Science Café Presentation, Ohio University
- Fall, 2006 Opportunities for Pre-Vet Training at at Ohio University, Ohio University Pre-Vet Club.
- Sum, 2006 Lab Host, Kids on Campus, Ohio University
- Fall, 2005 Science Presentation, Plains Elementary Fourth Grade, The Plains, Ohio
- 2004-2006 Judge, Southeast Ohio Regional Science Fair