

CURRICULUM VITAE

PERSONAL:

Name:	Lexie Shannon Holliday
Date and Place of Birth:	January 4, 1963, Charlton Heights, West Virginia
Marital Status:	Married: Natalia I. Holliday, (1 child, Sophia Arianne Holliday, born 12/3/99)
Home Address and Telephone:	4628 SW 94 th Dr. Gainesville, FL 32608 352-378-7159
Business Address, Telephone, E-mail:	University of Florida College of Dentistry Department of Orthodontics, 1600 SW Archer Road, Room D7-18 Box 100444 Gainesville, FL 32610 352-273-5689 FAX 352-392-3581 Email: sholliday@dental.ufl.edu

EDUCATION

1993-1996 National Research Training Associate, Washington University School of Medicine, St. Louis, Missouri. (Advisor: Stephen L. Gluck, M. D.)

1990-1993 Intramural Research Training Associate, National Institutes of Health, Bethesda, Maryland. (Advisor: Edward D. Korn, Ph. D. Member, USA National Academy of Sciences)

1985-1990 Ph. D. Cell Biology The Florida State University, Tallahassee, Florida (Dissertation Advisor: Thomas M. Roberts, Ph. D.)

1981-1985 B. S. Biology with Business Emphasis, West Virginia Institute of Technology, Montgomery, West Virginia

ACADEMIC EXPERIENCE AND APPOINTMENTS:

2006-present	Associate Professor, Department of Orthodontics, University of Florida College of Dentistry
2006-present	Associate Professor (Adjunct), Department of Anatomy & Cell Biology University of Florida College of Medicine, Gainesville, Florida
2001-2006	Assistant Professor, Department of Orthodontics, University of Florida College of Dentistry
1999-2006	Assistant Professor (Adjunct), Department of Anatomy and Cell Biology, University of Florida College of Medicine, Gainesville, Florida.
1998-2001	Assistant Professor (Research), Division of Nephrology and Hypertension, University of Florida College of Medicine, Gainesville, Florida
1996-1998	Instructor of Medicine (Research), Renal Division, Washington University School of Medicine, St. Louis, Missouri.

ADMINISTRATIVE/COMMITTEE EXPERIENCE:

2021- present	Member, UF Land Use Committee
2020	Member, Faculty Search Committee: Orthodontics
2020-present	Member, University of Florida College of Dentistry, Promotion and Tenure Committee
2018-2021	Member, University of Florida College of Dentistry Admissions Committee
2016-2018	Chair, Faculty Advisory Board
2016-2018	Chair, Faculty Assembly
2012-present	Coordinator of Graduate Research, Department of Orthodontics
2011-2014	Member of University of Florida College of Dentistry Admissions Committee
2011-2016	Member of IDP Graduate Admissions Committee
2011-2014	Member UFCD Faculty Advisory Board
2008-2011	Secretary of Faculty Assembly
2009-2012	Member, University of Florida College of Dentistry Research Committee
2009-2012	Member UF Infrastructure Council
2009-2012	Member, UF Land Use Committee
2007	NIH Peer review Working Group Liaison
2007-2013	Member of University of Florida Faculty Senate
2006-2008	Chair, University of Florida College of Dentistry Research Committee
2004-2012	Member, University of Florida College of Dentistry Research Committee

2004-2005	Member Faculty Search Committee: Endodontics
2004-2005	Member Faculty Search Committee: Orthodontics
2004-2005	Member Faculty Search Committee: Oral Biology
2000-2001	Member Faculty Search Committee: Orthodontics

PROFESSIONAL EXPERIENCE:

Study Section Service

Ad Hoc Reviewer

2021	Bridge Funding Reviewer, University of Toronto
2021	Abstract Reviewer AADOCR/CADR 2022 meeting
2020	SBDD
2015	Israel Science Foundation
2012	Canadian Arthritis Foundation
2010	NIAMS AMS 2008-05, NSF
2008	NIAMS AMS 2008-05, NSF
2007	Israel Science Foundation
2006	NIAMS AMS 2006-05
2005	NIAMS ZAR1 YZH-H
2005	NIAMS ZAR1 EHB-G
2005	Israel Science Foundation

Reviewer for journals

Guest Editor

Current Protein and Peptide Science (Hot Topics) “Vacuolar H⁺-ATPase as a drug discovery target” (2012)

Biomolecules (Special Issue) “Key biomolecules in bone resorption” (2019)

Editorial Board

Journal of Bone and Mineral Research (2006-2011)

Science Matters (2015- present)

Scientific Reports (2019-present)

Extracellular Vesicles and Circulating Nucleic Acids (2020-present)

Pharmacogenomics Research and Personalized Medicine (2021-present)

Ad Hoc Reviewer

Nature Communications

Journal of Extracellular Vesicles

Extracellular Vesicles and Circulating RNA
 ACTA Biomaterialia
 Clinical and Translational Medicine
 PLoSOne
 Journal of Biological Chemistry
 Journal of Bone and Mineral Research
 Journal of Dental Research
 Oncotarget
 FEBS Letters
 Laboratory Investigations
 Journal of Histochemistry and Cytochemistry
 Journal of Cellular Biochemistry
 Archives of Biochemistry
 FASEB, Journal
 Experimental Cell Research
 American Journal of Physiology-Cell Physiology
 Journal of Cell Physiology
 Journal of Orthopedic Research
 BMC Musculoskeletal Disorders
 Molecular Cancer Therapeutics
 Archives of Oral Biology
 Scientific Reports
 European Journal of Orthodontics
 Journal of Pharmacy and Pharmacology
 Cellular and Molecular Life Sciences
 Journal of Pharmacy and Pharmacology
 Molecular Therapy
 BioMed Research International
 Journal of Materials Chemistry B
 International Journal of Biological Sciences
 Progress in Neurobiology
 International Journal of Environmental Research and Public Health
 Molecules
 Biocell
 Elife
 Angle

RESEARCH AND GRANT ACTIVITY:

2021-2022	NIH-NIDCR R56 DE030538 (Whistler PI, Holliday co-I) 09/01/2021-8/31/2022 Title: <i>Toward a Precision Medicine Approach to Medication-Related Osteonecrosis of the Jaw</i> (\$246,653.00, Holliday sub-contract
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	\$12,236.60)
2018-2021	NIH-NIDCR R03 <i>Development of an exosome-based diagnostic platform for periodontal disease and root resorption</i> (\$150,000, Holliday sub-contract \$20,000)
2018-2018	UFCD Seed Grant <i>Characterization of clastic cell-derived exosomes in oral fluids: A step toward clinical application (pilot study)</i> . (\$11,209) Holliday PI
2017-2019	Department of Defense Office of the Congressionally Directed Medical Research Programs (CDMRP), (Gower, PI, Holliday Co-PI) PR161997 <i>Biomimetic Bone for Load-Bearing Bioresorbable Nanostructured Bone Substitutes</i> (\$305,000; Holliday sub-contract \$148,856)
2014-2016	NIH-NIDCR R21 DE023900 <i>Exosomes in alveolar bone remodeling and root resorption</i> (\$412,500)
2013-2015	University of Florida RGP Opportunity Seed Grant (Summerlin, PI; Holliday co-investigator) <i>Role of polymer architecture on the activity of osteoprotegerin conjugates for the treatment of accelerated bone loss disorders</i> (Holliday's sub-contract \$8,000)
2010-2013	NIH-NIDCR R21 DE19862 01A1 <i>Dental applications for a novel osteoclast inhibitor</i> (\$402,878.00)
2011-2012	University of Florida College of Dentistry Seed Grant (\$20,000)
2007-2009	University of Florida College of Dentistry MIPPPG (Chan PI, Holliday co-investigator) <i>Use of RNAi in oral tissue</i> . (Holliday's subcontract \$50,000).
2006-2017	NIH-NIDCR T32 DE-07200-16 (McArthur, Burne PI, Holliday, mentor) NRSA institutional training program in oral biology
2006-2007	University of Florida RGP Opportunity Seed Grant (Wronski, PI; Holliday co-investigator) <i>Development and preclinical testing of a novel osteoporosis therapy</i> (Holliday's sub-contract \$31,000)
2004-2006	American Association of Endodontics (Jiang, PI; Holliday, Co-investigator) <i>Role of toll-like receptors in osteoclast regulation</i> . (\$20,000).
2003-2006	NIH-NIDCR K08 DE015088-01A1 (Hurst PI, Holliday Co-PI) <i>Arp2/3 complex and osteoclast bone resorption</i> . (\$562,735).
2002-2003	American Association of Orthodontist's Foundation (PI: Holliday) <i>Phosphatidylinositol 3-kinase regulation of osteoclasts</i> (\$15,000)
2001-2006	NIH-NIAMS R01 AR47959 (PI: Holliday) <i>Osteoclast activation in uremic bone disease</i> (\$1,187,428.00)
1997-2000	Arthritis Foundation Investigator (PI: Holliday) <i>The role of interstitial collagenase in osteoclast activation</i> (\$150,000)

PATENTS

PCT/US09/68793 *Methods for treating osteoclast-related disease, compound and compositions thereof* Lexie Shannon Holliday and David

A. Ostrov Inventors. Assignee University of Florida Research Foundation. Pub Date Feb 23, 2012.

PROFESSIONAL ORGANIZATIONS:

2015-Present	American Society for Exosomes and Extracellular Vesicles
2001-Present	American Association for Dental Research
1987-2008	American Society for Cell Biology
1995-1998	American Association for the Advancement of Science
1996-2014	American Society for Bone and Mineral Research
1994-1996	National Kidney Foundation
1997-1998	Associate Member of the Washington University Cancer Center
1998-2001	American Society of Nephrology
2004-2007	American Society of Nephrology

HONORS AND AWARDS:

2022	Holliday L.S. Session Chair Craniofacial Biology Research I: Biology of Osteoblast, Osteoclast, and Chondrocytes AADOCR/CADR Atlanta March 2022
2021	Holliday L.S. Invited Speaker V-ATPase Summit Virtual Conference, Hosted by Upstate Medical University, Syracuse NY June 2021.
2018	Holliday L.S. Invited Speaker ASEMV meeting, Baltimore MD October 2018.
2018	Holliday L.S. Invited Speaker COAST Workshop on Personalized and Precision Orthodontics, Scottsdale, AZ Sept 2018.
2018.	Holliday L. S. Invited Speaker, SelectBio Circulating Biomarkers World Congress 2018, Boston MA March
2017	Holliday L.S. Invited Speaker and Session Chair, Extracellular Vesicles 2017. Cambridge, UK Sept 2017.
2016	Holliday, L. S. Invited Speaker, Consortium of Orthodontics Advancements in Science and Technology, West Palm Beach FL
2015	Holliday, L. S. Invited Speaker, Drug Discovery and Therapy World Conference, Boston MA

2015 IADR Craniofacial Biology Group Award 1st Place: Taylor Capasso (Dr. Holliday mentor), University of Florida College of Dentistry, Enoxacin and Bis-enoxacin Stimulate GW Body Formation and Alter Regulatory Exosomes Produced by Murine Breast Cancer Cells. This study was recently published in *Scientific Reports* with dental student Taylor Capasso, née Vracar, as first author.

2012	Holliday, L. S. Invited participant in FOR 1406 Workshop, Munich Germany
2010	Holliday, L. S. Phil Griffin, Distinguished Lecturer
2009-2010	Faculty Enhancement Award
2002-2003	Superior Accomplishment Award, University of Florida College of Dentistry

1996	All Star Team: St Louis Over 30 Baseball League
1993-1996	National Research Training Associate (NIDDK)
1990-1993	Intramural Research Training Associate (NHLBI)
1989	Sigma Xi Research Training Award
1985	Graduated Cum Laude
1985	All Conference Honorable Mention, Pitcher, WVIAC
1981-1985	West Virginia Institute of Technology, Varsity Letters: Baseball

PUBLICATIONS: Articles 71-91 are from the last 5 years

1. Pavalko, F. M., T. M. Roberts and L. S. Holliday. 1988. Relationship between plasma membrane motility and substrate attachment in the crawling movement of spermatozoa from Caenorhabditis elegans. Cell Motility and the Cytoskel. 11:16-23.
2. Holliday, L. S., M. R. Bubb and E. D. Korn. 1993. Rabbit skeletal muscle actin behaves differently than Acanthamoeba actin when added to soluble extracts of Acanthamoeba castellanii. Biochem. Biophys. Res. Com. 196:569-575.
3. Gluck, S. L., R. D. Nelson, B. S. Lee, L. S. Holliday and M. Iyori. 1994. Properties of kidney plasma membrane vacuolar H⁺ATPases: proton pumps responsible for bicarbonate transport, urinary acidification, and acid-base homeostasis. in *Organellar Proton ATPases*. (N. Nelson, ed), R. G. Landes, Austin TX.
4. Holliday, L. S., A. D. Dean, J. E. Greenwald and S. L. Gluck. 1995. C-type natriuretic peptide increases bone resorption in 1,25-dihydroxyvitamin D₃-stimulated mouse bone marrow cultures. J. Biol. Chem. 270 (32):18983-18989.
5. Holliday, L. S. and T. M. Roberts. 1995. Isolation and partial characterization of 30 nm-wide particles present in pseudopods of spermatozoa from *Ascaris suum*. Biochem. Biophys. Res. Com. 208:1073-1079.
6. Gluck, S. L., L. S. Holliday, M. Iyori, T. Kostrominova and B. S. Lee. 1995. Renal plasma membrane vacuolar H⁺ATPases: Properties and function in acid-base homeostasis. In: Molecular Endocrinology (Schlondorf/Bonventure Ed), Marcel Dekker, Inc., New York, NY, pp. 369-414.
7. Gluck, S. L., D M. Underhill, M. Iyori, L. S. Holliday, T. Y. Kostrominova and B. S. Lee. 1995. Biochemical regulation of proton secretion by the vacuolar H⁺ATPase of renal epithelial cells. In: DeSanto, NG and Capsso, G., Eds. *Acid-Base and Electrolyte*

Balance: Molecular, Cellular and Clinical Aspects. Istituto Italiano per Glistudy Filosofici, Naples, Italy. pp. 29-42.

8. Gluck, S. L., D. M. Underhill, M. Iyori, L. S. Holliday, T. Y. Kostrominova and B. S. Lee. 1996. Physiology and biochemistry of the kidney vacuolar proton ATPases. Ann. Rev. Physiol. Volume 58:427-446.
9. Lee, B. S., L. S. Holliday, B. Ojikutu, I. Krits and S. L. Gluck. 1996. Osteoclasts from various sources overexpress the B2 isoform of the vacuolar H⁺ATPase. Am. J. Physiol. 270 (Cell Physiol. 39): C382-C388.
10. Gluck, S. L., M. Iyori, L. S. Holliday, T. Kostrominova and B. S. Lee. 1996. Distal urinary acidification from Homer Smith to the present. Kidney Inter. 49:1660-1664.
11. Holliday, L. S., H. G. Welgus, C. J. Fliszar, G. M. Veith, J. J. Jeffrey and S. L. Gluck. 1997. Initiation of osteoclast bone resorption by interstitial collagenase. J. Biol. Chem. 272(35):22053-22058.
12. Corbett, J. W., J. S. Kerr, P. Wong, P. Harlow, G. A. Boswell, L. Pease, B. S. Lee, L. S. Holliday and S.L. Gluck. 1997. 2-sulfinylbenzothiazoles,-oxazoles and -imidizoles are novel in vitro bone anti-reabsorptive compounds. Med. Chem. Res. 7(3):151-167.
13. Holliday, L. S., A. D. Dean, R. H. Lin, J. E. Greenwald and S. L. Gluck. 1997. Low NO concentrations inhibit osteoclast formation in mouse marrow cultures by cGMP-dependent mechanism. Am. J. Physiol. 272 (Renal Physiol. 41): F283-F291.
14. Gluck, S.L., B.S. Lee, S-P. Wang, D. Underhill, J. Nemota and L. S. Holliday. 1998. Plasma membrane V-ATPases in proton-transporting cells of the mammalian kidney and osteoclast. Acta Physiol. Scand. 163, supp 643, 203-212.
15. Lee, B. S., L. S. Holliday, I. Krits and S. L. Gluck. 1999. Vacuolar H⁺-ATPase activity and expression in mouse bone marrow cultures. J. Bone Miner Res. 12:2127-2136.
16. Lee, B. S, S. L. Gluck and L. S. Holliday. 1999. Interaction between the vacuolar H⁺-ATPase and microfilaments during osteoclastic bone resorption. J. Biol. Chem. 274:29164-29171.
17. Witten, P. E., L. S. Holliday, G. Delling and B. K. Hall. 1999. Immunohistochemical identification of a vacuolar proton pump (V-ATPase) in bone resorbing cells of an advanced teleost species (*Oreochromis niloticus*, Teleostei, Cichlidae). J. Fish Biology. 55:1258-1272.

18. Holliday, L. S., M. Lu, B. S. Lee, R. D. Nelson, S. Solivan, L. Zhang and S. L. Gluck. 2000. The amino-terminal domain of the B subunit of the vacuolar H⁺-ATPase contains a filamentous actin binding site. J. Biol. Chem. 275:32331-32337.
19. Holliday, L.S., S. L. Gluck, E. Slatopolsky and A. J. Brown. 2000. 19-Nor-1, 25-dihydroxyvitamin D₂ is less active than 1, 25-dihydroxyvitamin D₃ in stimulating bone resorption in mouse marrow cultures. J. Am. Soc. Nephrol. 11:1857-1864.
20. Lu M, L.S. Holliday, L. Zhang, W.A. Dunn Jr, and S. L. Gluck. 2001. Interaction between aldolase and vacuolar H⁺-ATPase: evidence for direct coupling of glycolysis to the ATP-hydrolyzing proton pump. J. Biol. Chem. 276:30407-30413.
21. Lu, M., S. Vergara, L. Zhang, L. S. Holliday, J. Aris and S. L. Gluck. 2002. The amino-terminal domain of the E subunit of V-ATPase interacts with the H subunit and is required for V-ATPase function. J. Biol. Chem. 277:38409-38415.
22. Krits, I., R. B. Wysolmerski, L. S. Holliday, and B. S. Lee. 2002. Distribution of myosin II isoforms in resting and activated osteoclasts. Calcified Tissue Inter. 71:530-538.
23. Lee, B.S., S. C. Lee and L. S. Holliday. 2003. Biochemistry of mechanoenzymes: Biological motors for nanotechnology. Biomedical Microdevices: BioMEMS and Biomedical Nanotechnology, 5:269-280.
24. Jiang, J. J. Zuo, I. R. Hurst and L. S. Holliday. 2003. The synergetic effect of petidoglycan and lipopolysaccharide on osteoclast formation. Oral Surg Oral Med Oral Path Oral Rad Endod. 96: 738-743.
25. Holliday, L. S., A. Vakani, L. Archer and C. Dolce. 2003. Effects of matrix metalloproteinase inhibitors on bone resorption and orthodontic tooth movement. J. Dental Res. 82:687-691.
26. Dolce, C., A. Vakani, L. Archer, J.A. Morris-Wiman and L. S. Holliday. 2003. Effects of echistatin and an RGD peptide on orthodontic tooth movement in rats. J. Dental Res. 82:682-686.
27. Holliday, L. S., H. G. Welgus, J. Hanna, B. S. Lee, M. Lu, J. J. Jeffrey and S. L. Gluck. 2003. Interstitial collagenase activity triggers osteoclasts to form actin rings and ruffled membranes. Calcified Tissue. Inter. 72:206-214.
28. Jiang, J., J. Zuo, S-H. Chen and L. S. Holliday. 2003. Calcium hydroxide reduces LPS stimulated osteoclast formation. Oral Surg Oral Med Oral Path Oral Rad Endod. 95:348-354.

29. Brown, A.J., C. S. Ritter, L. S. Holliday, J.C. Knutson, and S.A. Strugnell. 2004. Tissue distribution and activity studies of 1,24-dihydroxyvitamin D(2), a metabolite of vitamin D(2) with low calcemic activity in vivo. Biochemical Pharmacol. 68:1289-1296.
30. Beem, E., L. S. Holliday, and M. S. Segal. 2004. The 1.4 MD apoptosome is a critical intermediate in apoptosome maturation. Am. J. Physiol. (Cell Phys.) 287:C664-C672.
31. Zuo, J. J. Jiang, C. Dolce and L. S. Holliday. 2004. Effects of basic fibroblast growth factor on osteoclasts and osteoclast-like cells. Biochem. Biophys. Res. Com. 318:162-167.
32. Hurst, I. R., J. Zuo, J. Jiang and L. S. Holliday. 2004. Actin-related protein 2/3 complex are required for actin ring formation in osteoclasts. J. Bone Miner. Res. 19:499-506.
33. Lu, M., Y.Y. Sautin, L. S. Holliday, and S. L. Gluck. 2004. The glycolytic enzyme aldolase mediates assembly, expression and activity of vacuolar H⁺-ATPase. J. Biol. Chem. 279:8732-8739.
34. Chen, S-H., M. R. Bubb, E. G. Yarmola, J. ,Zuo, J., Jiang, B. S. Lee, M. Lu, S.L. Gluck, I. R. Hurst, and L. S Holliday. 2004. Vacuolar H⁺-ATPase binding to microfilaments: Regulation in response to phosphatidylinositol 3-kinase activity and detailed characterization of the actin binding site in subunit B. J. Biol. Chem. 279:7988-7998
35. Holliday, L. S., M. R. Bubb, J. Jiang, I. Rita Hurst, J. Zuo. 2005. Interactions between V-ATPases and microfilaments in osteoclasts. J. Bioenergetics and Biomembranes. 37:419-423.
36. Dolce, C. and L. S. Holliday. 2006. Toward molecular orthodontics. In *Essentials for Orthodontic Practice* (Riola and Avery, ed), EFOP Press, Inc., Ann Arbor and Grand Haven, MI.
37. McMichael B. K., P. Kotadiya, T. Singh , L.S. Holliday, and B.S. Lee. 2006. Expression and subcellular distribution of tropomyosin isoforms in osteoclasts Bone 39:694-705.
38. Zuo, J., J. Jiang, S-H. Chen, S. V. Vergara, Y. Gong, J. Xie, H. Huang, M. Kaku and L. S. Holliday. 2006. The actin binding activity of subunit B of vacuolar H⁺-ATPase is involved in its targeting to ruffled membranes of osteoclasts. J. Bone Miner. Res. 21: 714-721.

39. Zuo, J., Archer, L.A., Cooper, A., Johnson, K., Holliday, L. S. and C. Dolce. 2007. Nuclear Factor κ B p65 Phosphorylation in Orthodontic Tooth Movement. J. Dent. Res. 86:556-9.
40. Zuo J, Vergara S, Kohno S, Holliday LS. 2008 Biochemical and functional characterization of the actin-binding activity of the B subunit of yeast vacuolar H⁺-ATPase. J Exp Biol. Apr;211(Pt 7):1102-8.
41. Pillagi, R., K. Antony, J. Zuo and L. S. Holliday. 2009. Propolis inhibits osteoclastogenesis. Dental Traumatology 25:584-588.
42. Downey ME, Holliday LS, Aguirre JI, Wronski TJ. 2009 In vitro and in vivo evidence for stimulation of bone resorption by an EP4 receptor agonist and basic fibroblast growth factor: Implications for their efficacy as bone anabolic agents. Bone. Feb;44(2):266-74.
43. Holliday LS, Ostrov DA, Wronski TJ, Dolce C. 2009. Osteoclast polarization and orthodontic tooth movement. Orthod Craniofac Res. May;12(2):105-12. Review.
44. Ostrov DA, Magis AT, Wronski TJ, Chan EK, Toro EJ, Donatelli RE, Sajek K, Haroun IN, Nagib MI, Piedrahita A, Harris A, Holliday LS. 2009. Identification of enoxacin as an inhibitor of osteoclast formation and bone resorption by structure-based virtual screening. J Med Chem. 52:5144-5151.
45. Serrano EM, Ricofort RD, Zuo J, Ochotny N, Manolson MF, Holliday LS. 2009. Regulation of vacuolar H⁽⁺⁾-ATPase in microglia by RANKL. Biochem Biophys Res Commun. 389:193-197.
46. Pauley, K.M., M. Satoh, P.R. Dominguez-Gutierrez, S.M. Pop, L. S. Holliday, W.H. Reeves, and E.K.L. Chan. 2010. GW/P body assembly is induced in human monocytes in response to lipopolysaccharide stimulation of the innate immune signaling pathway. Immunology and Cell Biology 88:205-212.
47. Neubert, J. K., R. M. Caudle, C. Dolce, E. J. Toro, Y. Bokrand-Donatelli, and L. S. Holliday. 2011. Neural Modulation of Orthodontic Tooth Movement, in Principles in Contemporary Orthodontics, Dr. Silvano Naretto (Ed.), ISBN: 978-953-307-687-4, InTech, DOI: 10.5772/20800. Available from: <http://www.intechopen.com/books/principles-in-contemporary-orthodontics/neural-modulation-of-orthodontic-tooth-movement>
48. Xu, J., S. Barone, H. Li, L. S. Holliday, K. Zahedi and M. Soleimani. 2011. Slc26a11, a chloride transporter, localizes with the vacuolar H⁽⁺⁾-ATPase of A-intercalated cells of the kidney. Kidney Int. 80(9):926-937. (This manuscript was featured in a commentary

- that accompanied the article. Eladari D. and J. Teulon. 2011. A new regulator of the vacuolar H(+)-ATPase in the kidney. Kidney Int. 2011 Nov;80(9):907-9.)
49. Holliday, L.S. 2012. Vacuolar H⁺-ATPase: Targeting a “Housekeeping” Enzyme for Drug Development. Curr. Prot. Peptide Sci. 13: 105-106.
 50. Dolce, C., L. S. Holliday and J. K. Neubert. 2012 Prospects for medicinal orthodontics. In *Essentials for Orthodontic Practice, third edition* (Riola, ed), Essential Press, Inc., Ann Arbor and Grand Haven, MI.
 51. Toro, E. J., D. A. Ostrov, T. J. Wronski, and L. S. Holliday. 2012. Rational identification of a novel V-ATPase-directed inhibitor of bone resorption. Curr. Prot. Peptide Sci. 13: 180-191. Invited Review.
 52. Toro, E. J., J. Zuo, D. Catalfamo, V. Bradaschia-Correa, V. Arana-Chavez, R. Donatelli, J.K. Neubert, T.J. Wronski, D. A. Ostrov, S.M. Wallet² and L. S. Holliday. 2012. Enoxacin directly inhibits osteoclastogenesis without inducing apoptosis. J. Biol Chem. 287:17894-17904.
 53. Kim SS, DW Kwon, I Im, YD Kim, DS Hwang, LS Holliday, RE Donatelli, WS Son, ES Jun. 2012. Differentiation and characteristics of undifferentiated mesenchymal stem cells originating from adult premolar periodontal ligaments. Korean J Orthod.42(6):307-317.
 54. Holliday, L.S., Huynh, N., Zuo, J., E.J. Toro. 2013. Mechanisms controlling vacuolar H⁺-adenosine triphosphatase activity:targets for the development of new therapeutic agents for the management of osteoporosis. Research and Reports in Biochem. 3:1-17. Invited Review.
 55. Toro, E.J., Zuo, J., Guterrez, A., La Rosa R, Gawron, A. , Bradashia-Correa, V., Dolce, C., Rivera, M. F., Lakshmyya, K., Bhattacharyya, I., Neubert, J.K., and Holliday, L.S. 2013. Bis-enoxacin inhibits bone resorption and orthodontic tooth movement. J. Dent Res. 92(10):925-931.
 56. Rodriguez, D., E., Thula,T., Toro E. J., Yeh, Y-W., Holt, C., Holliday, L. S., and Gower L. B. 2014. Multifunctional role of osteopontin in directing intrafibular mineralization of collagen and activation of osteoclasts. ACTA Biomaterialia. 10(1):494-507.
 57. Holliday, L.S. 2014. V-ATPase: An essential multitasking enzyme in physiology and pathophysiology. New Journal of Science. 2014. Article ID 675430, 21 pages.
 58. Neiva, K, Catalfamo, D., Holliday, L. S., Wallet, S. M., and R.Pileggi. 2014. Propolis decreases LPS-induced inflammatory mediators in pulp cells and osteoclasts. Dental

59. Rivera, M.F., Lee, J.-Y., Chukkapalli, S., Velsko I, Bhattacharyya, I. ., Toro, E.J., Holliday, L. S. , and K. Lakshmyya . 2014. Bis-enoxacin blocks rat alveolar bone loss in polymicrobial periodontitis. PLOS One, 9(3):e92119. PMID:24638087.
60. Rody, W.J., Holliday, L. S., McHugh, K.P., Wallet, S.M., Spicer, V., Krokhin, O., 2014. Mass spectrometry anlaysis of gingival crevicular fluid in the presence of external root resorption. AJO-DO. 145(6):787-798. PMID: 24880850.
61. Oktay, S, Chukkapalli, S. S., Rivera, M. F., Velsko, I. M., Holliday, L. S., Kesavalu, L. 2015. Periodontitis in Rats Induces Systemic Oxidative Stress which is controlled by Bone-targeted Antiresorptives. J. Periodontol. 86(1):137-145. PMID:25101489
62. Dolce C, and L.S. Holliday. Computational Chemistry: A New Frontier in Orthodontics. In: *Expedited Orthodontics: Improving the Efficiency of Orthodontic Treatment Through Novel Technologies*. Kapila SD, Nervina J, Hatch N (eds). Monograph 51, Craniofacial Growth Series, Department of Orthodontics and Pediatric Dentistry and Center for Human Growth and Development, The University of Michigan, Ann Arbor:2015:305-328.
63. Tucker BS, Stewart JD, Aguirre JI, Holliday LS, Figg CA, Messer JG, Sumerlin BS. 2015. Role of Polymer Architecture on the Activity of Polymer-Protein Conjugates for the Treatment of Accelerated Bone Loss Disorders. Biomacromolecules. 16(8):2374-81. doi: 10.1021/acs.biomac.5b00623. Epub 2015 Jul 7. PubMed PMID: 26151628.
64. Rody WJ Jr, Wijegunasinghe M, Holliday LS, McHugh KP, Wallet SM., 2016. Immunoassay analysis of proteins in gingival crevicular fluid samples from resorbing teeth. Angle Orthodontist, 2016 Mar;86(2):187-92. doi: 10.2319/032415-195.1. Epub 2015 Jul 8. PubMed PMID: 26154939.
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Holliday LS, Song S. 2017. Transplantation of Adipose Tissue Derived Mesenchymal Stem Cell (ATMSC) Expressing Alpha-1 Antitrypsin Reduces bone loss in Ovariectomized Mice. *Hum. Gene Therapy*. Feb;28(2):179-189..

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83. Khodayari N, Oshins R, Holliday LS, Clark V, Xiao Q, Marek G, Mehrad B, Brantly M. 2020. Alpha-1 antitrypsin deficient individuals have circulating extracellular vesicles with profibrogenic cargo. *Cell Commun Signal*. Sep 4;18(1):140. doi: 10.1186/s12964-020-00648-0. PMID: 32887613.
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85. Holliday LS, Patel SS, Rody WJ Jr 2021. RANKL and RANK in Extracellular Vesicles:

Surprising New Players in Bone Remodeling. EVCNA March 30; 2:18-28.

86. Murray JB, Mikhael C, Han G, de Faria LP, Rody, Jr WJ, Holliday LS. 2021. Activation of (pro)renin by (pro)renin receptor in extracellular vesicles from osteoclasts. *Scientific Reports*. Apr 28;11(1):9214. doi: 10.1038/s41598-021-88665-y. PMID: 33911158.
87. Littlewood SJ, Dalci O, Dolce C, Holliday LS, Naraghi, S. 2021. Orthodontic Retention: What is on the horizon? *Br Dent J*. 230, 760–764 (2021). <https://doi.org/10.1038/s41415-021-2937-8>.
88. Yang G, Singh S, McDonough CW, Lamba JK, Hamadeh I, Holliday LS, Wang D, Katz J, Lakatos PA, Balla B, Kosa JP, Pelliccioni GA, Price DK, Van Driest SL, Figg WD, Langae T, Moreb JS, Gong Y. Genome-wide Association Study Identified Chromosome 8 Locus Associated with Medication-Related Osteonecrosis of the Jaw. *Clin Pharmacol Ther*. 2021 Dec;110(6):1558-1569. doi: 10.1002/cpt.2397. Epub 2021 Aug 31. PMID: 34390503.
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91. Xu J, Barone S, Varasteh Kia M, Holliday LS, Zahedi K, Soleimani M. Identification of IQGAP1 as a SLC26A4 (Pendrin)-Binding Protein in the Kidney. *Front Mol Biosci*. 2022 May 5;9:874186. doi: 10.3389/fmolb.2022.874186. PMID: 35601831; PMCID: PMC9117723.
92. Khodayari N, Oshins R, Mehrad B, Lascano JE, Qiang X, West JR, Holliday LS, Lee J, Wiesemann G, Eydgahi S, Brantly M. Cigarette smoke exposed airway epithelial cell-derived EVs promote pro-inflammatory macrophage activation in alpha-1 antitrypsin deficiency. *Respir Res*. 2022 Sep 6;23(1):232. doi: 10.1186/s12931-022-02161-z. PMID: 36068572.
93. Yang G, Williams R, Wang L, Farhadfar N, Chen Y, Loiacono AT, Jiang B, Holliday LS, Katz J, Gong Y. Medication-Related Osteonecrosis of the Jaw in Cancer Patients: Result from the OneFlorida Clinical Research Consortium. *JBMR*, in press, 2022.

SELECTED INVITED PRESENTATIONS:

Holliday, L. S. 1999. Osteoclast activation and V-ATPase regulation. Invited seminar: Department of Physiology and Biophysics, University of Indiana-Purdue University Medical School. Indianapolis IN. March 1999.

Holliday L. S. V-ATPase transport during osteoclast activation. Invited seminar: Department of Physiology, Ohio University College of Osteopathic Medicine. Athens OH, April 2001.

Holliday, L. S. V-ATPase transport and the actin cytoskeleton. Invited seminar: Department of Physiology, Case Western University. Cleveland, OH, April 2001.

Holliday, L. S. Transport of V-ATPases in osteoclasts Invited seminar, Tufts University, Department of Physiology, Boston, Mass Dec 2003.

Holliday, L. S. V-ATPase interactions with the cytoskeleton: Invited presentation: FASEB Summer Research Conference-Transport ATPases: Genomics, mechanisms and relevance to disease. Vermont Academy, Saxton's River, Vermont. July 2005.

Holliday, L. S. V-ATPases: Regulators of cytoskeletal and membrane dynamics in osteoclasts. Invited seminar, Department of Orthopedics, Washington University School of Medicine. St. Louis MO. Feb 2006.

Holliday, L.S. Osteoclast polarization and orthodontic tooth movement, Invited presentation: COAST meeting Pacific Grove, CA September 2008

Holliday, L. S. Rational design of a novel anti-osteoporotic bisphosphonate. Phil Griffin Distinguished Lecture Series, UFAA, May 2010.

Holliday L. S. Novel small molecule inhibitors of bone resorption. Invited seminar, Amgen, Thousand Oaks, CA. June 2010.

Holliday, L. S. Novel small molecule inhibitors of bone resorption, Invited symposium talk, International Association for Dental Research meeting Barcelona, Spain June 2010.

Holliday, L. S. Specialized V-ATPase sorting mediated by the WASH complex as a potential therapeutic target. Invited symposium presentation, FOR-1406 Workshop: V-ATPase as a therapeutic target. Munich, Germany March 2012.

Holliday L.S. Regulation of bone remodeling by exosomes. ASEMV meeting, Asilomar, Pacific Grove CA. September 2014.

Holliday L.S. Rational identification of enoxacin as a novel V-ATPase (and/or microRNA)-directed anti-resorptive. Invited presentation, Drug Discovery and Therapy World Conference, Boston, MA July, 2015.

Holliday L.S. Regulatory extracellular vesicles from osteoclasts. ASEMV meeting, Marco Island, Florida. September 2015.

Holliday L.S. Exosomes in Alveolar Remodeling and Root Resorption. Invited presentation, COAST Workshop on Personalized and Precision Orthodontics, West Palm Beach Florida, Sept 2016

Holliday L.S. Composition and regulatory activities of extracellular vesicles released by osteoclasts. Extracellular Vesicles 2017. Cambridge, UK Sept 2017.

Holliday L. S. Osteoclast extracellular vesicles: A complex situation. SelectBio Circulating Biomarkers World Congress 2018, Boston MA March 2018

Holliday L.S. RANK-containing EVs released by osteoclasts. ASEMV meeting, Baltimore MD October 2018.

Holliday L.S. Exosomes Identification in Orthodontic Tooth Movement. Invited presentation, COAST Workshop on Personalized and Precision Orthodontics, Scottsdale, AZ, Sept 2018

Holliday L.S. Activation of (pro)renin by (pro)renin receptor in extracellular vesicles from osteoclasts. Virtual V-ATPase Summit 2021.

TEACHING AND MENTORING ACTIVITY:

2016-Present	Certified Master Mentor: UF Clinical and Translational Science Institute
2018-present	Mentor of Junior Faculty, Nazli Khodayari, Research Assistant Professor, Pulmonary Division, College of Medicine
2022- 2023	Chair Thesis Committee, Ruwa Irshied, Candidate for MS in Oral Biology Expected Graduation date (2024)
2021-2022	Dissertation Committee, Jeremy Elias, Candidate for Ph.D. in Mechanical Engineering (Chair, Gower)
2022-present	Research Mentor, Bradley Engert
2021-2022	Sponsor: University Scholar, Macey Martin (Dental Student, UFCD)

2020-2021	Research Mentor EMA 4914, Delaney Meyer
2020	Research Mentor, Maya Rifai, UFCD dental student.
2020-present	Research Mentor, Christy Mikhael, UFCD dental student.
2019-2021	Sponsor: University Scholar, Shivani S. Patel (Dental Student Univ Florida)
2019-present	Chair Thesis Committee, Schuyler Tang, Candidate for MS in Oral Biology Expected Graduation date 2022.
2019-2020	Chair Thesis Committee, Daniel Popper, Candidate for MS in Oral Biology Expected Graduation date 2022.
2019-2020	Sponsor: Lorraine Faria, Bridge graduate Student from Brazil, University Sao Paulo, Victor Arana-Chavez's lab.
2018	Sponsor: Guanghong Han, Chinese Research Foundation Scholar, Jilin University
2018-2019	Sponsor: University Scholar, Christy Mikhael (Dental Student UF)
2018	Dental Research Summer Student Rosemarie Torres-Medina
2018-Present	Chair Thesis Committee, Nathan Reuter, Candidate for MS in Oral Biology Graduation May 2021.
2018-2020	Chair Thesis Committee, Kelsey Cronauer Wahl Candidate for MS in Oral Biology Graduation May 2020. (Joy Orthodontics, Jacksonville, FL)
2018-2019	Chair Thesis Committee, Estella Truzman, Candidate for MS in Oral Biology Graduation May 2019. (Martin Orthodontics, Jonesville, FL)
2017-2019	Chair Thesis Committee, Jonathon Murray, Candidate for MS in Oral Biology Graduation, May 2020. (Taylor Orthodontics, Palm Beach Gardens, FL)
2017-2020	Dissertation Committee, Guang Yang, Candidate for Ph.D. in Pharmaceutical Sciences (Postdoctoral fellow Northwestern)
2017	UF Clinical and Translational Science Institute Mentoring Academy, Mentoring Course, Master Mentor certificate.
2015-2018	Chair Thesis Committee, Demyana Hanna (Azer), Candidate for MS in Oral Biology, grad date 2018 (Stubbs Orthodontics, Brandon FL)
2014-2018	Sponsor UFCD Research Track Dental Student, Taylor (Capasso) Vracar (Orthodontic Resident, Univ. Tennessee)
2014-present	Coordinator of Orthodontic Graduate Research
2012-2017	Dissertation Committee, Neha Saxhena, Candidate for Ph.D. in Biomedical Engineering (Gower) grad date 2017. (Scientist, Johnson and Johnson, PA)
2014-2017	Dissertation Committee, Brian Wingender, Candidate for Ph.D. in Biomedical Engineering (Gower) grad date 2017 (Assistant Professor, Univ. North Florida)
2013-2017	Dissertation Committee, Mohammad Akbar, Candidate for Ph.D. in Pharmaceutical Sciences (Song) grad date 2017. (Instructor, Marshall Univ)
2013-2017	Small Group Learning Initiative: Co-Wrote first Case Base Learning Unit used at UFCD "Blue Eyes, Blue Wedding?" and also co-wrote "The Runner"
2013	Facilitating in Small Group Learning: Training Session March 4-7
2012-present	Lecturer DEN 6610 Biology of Orthodontic Tooth Movement

2012-2015 Chair Thesis Committee, Lindsay VonMoss, Candidate for MS in Oral Biology, grad date 2015. (Orthodontist, Gainesville, FL)

2011-present Lecturer GMS 6421 Advanced Cell Biology

2011-2014 Chair Thesis Committee, Nancy Huynh, Candidate for MS in Oral Biology, grad date 2014.(Orthodontist, San Francisco, CA)

2009- 2012 Dissertation Committee, Kassidy Chauncey, Candidate for Ph.D. in Biochemistry. (Southwick) Grad date 2012. (Real Estate Agent, Gainesville, FL)

2009-2012 Dissertation Committee, Ana Bassit, Candidate of Ph. D. in Physiology (Wronski) Grad date 2012. (Veterinary Medicine, University of Florida)

2008-2012 Chair Dissertation Committee, Edgardo Toro, Candidate for PhD in Molecular Cell Biology. Grad Date 2012 (Toro Orthodontics, Tampa, FL)

2008-2011 Chair Thesis Committee, Richard Donatelli, Candidate for MS in Oral Biology, grad date 2011 (Clinical Assistant Professor, Univ Florida Coll Dentistry)

2008-2012 Dissertation Committee Dana Castalfamo, PhD candidate, Molecular Cell Biology (Wallet) Grad Date 2012 (Physician's Assistant, Brewer, ME)

2009-2011 Section Director GMS 6001 Section 4, Cytoskeleton and Cell Motility

2008 Dental Summer Research Student, Ana Piedrahita (General Dentist, Houston TX)

2007 Dental Summer Research Student, Sandy Luceus (Dentist Avodale, AZ)

2007-2008 Dissertation Committee Chair: Rushi Patel, D.M.D., Candidate for Ph. D. Molecular Cell Biology. (Oral & Maxillofacial surgery, Crystal River, Florida)

2007-2012 Dissertation Committee Andrea Knowlton, Candidate for Ph. D., Oral Biology (Grieshaber) Grad date 2012. (Assistant Scientist, University of Florida)

2007-2011 Dissertation Committee Sarah Guilmain, Candidate for Ph.D., Biochemistry (Southwick) Grad date 2011 (Program Manager at Recursion Pharmaceuticals, Cambridge, MA)

2006-2007 Sponsor, University Scholar, Eric Serrano (DDS IUPUI 2012, Endodontist, St Cloud, FL)

2006 Dental summer research scholar, Kristie Johnson (Dentist, Tampa, FL)

2006 Dental summer research scholar, Kathryn Antony (Dentist, Atlantic Beach, FL)

2003-2004 Supervisor Sandra Vergara (Ph.D. Duke 2011, Post Doc MIT, in lab of Craig Mello, 2006 Nobel Prize in Physiology, Postdoc David Sherwood, Duke University) Co-owner Elodie Farms, A no-kill goat farm Rougemont, NC.

2005-2006 Sponsor, University Scholar, Kristie Johnson (DDS Univ Florida 2011)

2005-2007 Dissertation Committee, Cindy Capestany, Candidate for Ph. D. Oral Biology, (Lamont) Grad date 2007. (Physician's Assistant, Palm Bay, FL.)

2004-2008 Dissertation Committee, Ellen Bishai, Candidate for Ph. D. Biochemistry (Southwick) Veterinarian Tampa, FL

2004-2006 Thesis Committee, Andrea Roebuck, Candidate for M.S. Biotechnology (Southwick) (Grad Date May 2006). Law Practice Orlando, FL

2004 Dental Summer Research Scholar, Andrew Cooper (Orthodontist, Cooper Orthodontics, Royal Palm Beach FL)

2004-2009 Dissertation Committee, Iman Al-Naggar, Candidate for Ph.D., Biochemistry (Bubb) Grad date 2009. (Adjunct Faculty APICS)

2003-2005 Masters Committee Judson Reed, Candidate for M.S. Oral Biology (Dolce) (Reed Orthodontics, Ocala, FL)

2002-Present Department of Dental Sciences Graduate Faculty

2002-Present Lecturer: GMS 6160-6161 Introduction to Oral Biology

2002-Present Lecturer: IDP Core Course GMS 6001

2002-Present Lecturer: GMS 6635 Organization of Cells and Tissues

2001-2006 Dissertation Committee Chair: Rita Hurst, Candidate for Ph. D. Molecular Cell Biology, Grad Date (July 2006). (Insoft and Hurst Orthodontics, St. Petersburg FL)

2003-2005 Co-organizer Osteobiology Journal Club

2002-2003 Masters Committee Arvind Vakani, Candidate for M.S. Oral Biology Grad Date 2003 (Dolce). (Orthodontist, Port St Lucie, FL)

1999-2001 Masters Committee Chair: Shih-Hua Chen, Masters in Biotechnology, Grad Date (December, 2001) (Clinical Laboratory Scientist, SSM Health Care, St Louis MO.)

2000-2001 Sponsor University Scholar Jing-Yi Chern (MD, Oncologist, Moffitt Cancer Center, Tampa, FL)

1999-Present Interdisciplinary Program Graduate Faculty: Molecular Cell Biology/ Biochemistry and Biophysics

1998-2003 Discussion Leader, IDP Molecular Cell Biology and Developmental Biology. GMS 6001-6002

1997, 1998 Supervisor John Hanna, Summer research student, BS Stanford, 2001, MD/PhD. Program Department of Anatomy & Cell Biology, Harvard University, grad 2007.(Associate Professor, Harvard Medical School, Boston, MA)

1997 Supervisor Chris Gloriod, High School Summer Research Student, BS Washington University of St. Louis 2002. (Acct Executive Aon Risk Solutions)

1996-1997 Supervisor Aalok Shah, Undergraduate Research Student (CFO and Director of Research, Zuna Financial Services, Portland, OR)

1996-1997 Supervisor Shyam Thakkar, Undergraduate Research Student (MD, Temple University, 2001, Professor and Director of Advanced Therapeutic Endoscopy, WVU)

1995-1996 Supervisor Royana Lin, Undergraduate Research Student, (Dental School, University of Iowa, Pediatric Dentist, Clinical Assistant Professor, University of Texas, San Antonio)

1986-1988	Teaching Assistant, 3000 Level Research Lab (4 semesters)
1986, 1989	Teaching Assistant APB-1150 Introduction to Biology for Non-Majors (2 semesters)