

CURRICULUM VITAE

PERSONAL DATA

Name: Michael Baker Chavez
Work Address: University of Iowa, College of Dentistry
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EDUCATION

MS, ORTHODONTICS
JUNE 2027, ANTICIPATED
UNIVERSITY OF IOWA, COLLEGE OF DENTISTRY AND DENTAL CLINICS
IOWA CITY, IA

DDS
JUNE 2025
UNIVERSITY OF IOWA, COLLEGE OF DENTISTRY AND DENTAL CLINICS
IOWA CITY, IA

PHD, ORAL BIOLOGY
JUNE 2025,
OHIO STATE UNIVERSITY
COLUMBUS, OH

BS: BIOLOGY; MINOR: ENVIRONMENTAL SCIENCE
2009
COLLEGE OF CHARLESTON, SC

PROFESSIONAL EXPERIENCE

2021-Pres. University of Iowa, College of Dentistry, Orthodontic Resident
2021-2025 University of Iowa, College of Dentistry, Dental student
2017-2025 The Ohio State University, College of Dentistry, Division of Biosciences: Graduate Research Fellow
2016-2017 The Ohio State University, College of Dentistry, Division of Biosciences: Research Assistant II, Dr. Brian Foster's Laboratory
2014-2016 Medical University of South Carolina, College of Dentistry, Division of Oral Biology: Research Specialist II/Lab manager, Dr. Keith Kirkwood's Laboratory
2012-2014 Medical University of South Carolina, College of Dentistry, Division of Oral Biology: Research Specialist I/Lab Manager, Dr. Courtney Haycraft's Laboratory
2011-2012 Arborgen, R&D department, Charleston, SC: Research Assistant

GRANTS

2021 F30DE030358
Michael B. Chavez
National Institute of Health
2021-2025
Functional domains of bone sialoprotein in dentoalveolar development and healing

AWARDS AND HONORS

- 2024 Dare to Discover Campaign, University of Iowa, showcases innovative researchers, scholars, and creators from across the University of Iowa. The campaign is sponsored by the Office of the Vice President for Research.
- 2024 Most Outstanding Presentation in Basic Science Research, 28th Hinman Student Research Symposium, Memphis, TN.
- 2023 AADR Bloc Travel Grant, IADR/AADOCR/CADR, Portland, Oregon.
- 2023 Journal of Dental Research, Cover Image, February 2023.
- 2023 University of Iowa, Local AADOCR Research Day, Max Smith Graduate and Postdoctoral Competition 3rd Place.
- 2021 IADR Mineralized Tissue Group, Young investigator award, Atlanta, GA.
- 2020 IADR Hatton Competition, *Impaired bone healing in bone sialoprotein knockout mice*. Washington, D.C.
- 2020 AADR Hatton Competition (2nd place), *Impaired bone healing in bone sialoprotein knockout mice*. Washington, D.C.
- 2020 Ohio State University, College of Dentistry, Paper of the year, Basic Science, "Loss of Discoidin Domain Receptor 1 Predisposes Mice to Periodontal Breakdown. *J Dent Res*.
- 2020 Ohio State University, College of Dentistry. 2020 Dean's Awards for Excellence in Research Graduate student award, 3rd place.
- 2020 IADR MTG Outstanding Young Investigator Award. Washington D.C.
- 2020 AADR Bloc Travel Grant, IADR/AADR Washington, D.C.
- 2019 International Conference on the Chemistry and Biology of Mineralized Tissues (ICCBMT) Young Investigator Award.
- 2019 AADR Bloc Travel Grant, IADR/AADR/CADR Vancouver, Canada.
- 2019 Ohio State University, Sigma Xi Annual Banquet poster presentation, 1st place. *Discoidin Domain Receptor 1 (Ddr1) Ablation Predisposes Mice to Periodontitis*.
- 2019 Ohio State University, Graduate School. Hayes Forum. Second place oral presentations, biological sciences. *Discoidin Domain Receptor 1 (Ddr1) Ablation Predisposes Mice to Periodontitis*.
- 2018 The German Dental Society (DGZMK) best papers of the year from German universities: *Reduzierte kieferorthopädische Zahnbewegung bei Enpp1-mutierten Mäusen mit Hyperzementose* reprinted and translated from *Reduced orthodontic tooth movement in Enpp1 mutant mice with hypercementosis*. *J Dent Res* 97(8):937-945, 2018.
- 2018 Cover image chosen for Ohio State University, Dental School, *Dental Journal*, Volume 6, Issue 1. Spring 2018.
- 2018 Ohio State University, College of Dentistry. 2018 Dean's Awards for Excellence in Research Graduate student award, 3rd place.

INVITED PRESENTATIONS

1. Evolution of periodontal bone loss measurements with microcomputed tomography
Conference on micro-computed tomography analysis of dental and skeletal tissues, National Institutes of Health, Bethesda, MD, March 2019.

BIBLIOGRAPHY

Peer-reviewed publications

1. **Chavez MB**, Andras NL, Tan MH, Kolli TN, Chu EY, Goldberg HA, Foster BL. Exogenous bone sialoprotein improves extraction socket healing in Ibsp knockout and wild-type mice. *Bone*. 2025 Mar;192:117381. doi: 10.1016/j.bone.2024.117381. Epub 2024 Dec 23. PMID: 39722365; PMCID: PMC11761379.
2. Phanrungsuan A, **Chavez MB**, Eltilib LA, Kolli TN, Mohamed FF, Tan MH, Salmon CR, Nociti FH Jr, Foster BL. Disparate effects of sclerostin deletion on alveolar bone and cellular cementum in mice. *J Periodontol*. 2025 Jan;96(1):82-96. doi: 10.1002/JPER.24-0025. Epub 2024 Jul 16. PMID: 39012429; PMCID: PMC11735692.
3. **Chavez MB**, Tan MH, Kolli TN, Andras NL, Foster BL. Functional defects in cementoblasts with disrupted bone sialoprotein functional domains, in vitro. *Bone*. 2024 Feb;179:116961. doi: 10.1016/j.bone.2023.116961. Epub 2023 Nov 10. PMID: 37951522.
4. **Chavez MB**, Tan MH, Kolli TN, Zachariadou C, Farah F, Mohamed FF, Chu EY, Foster BL. Bone Sialoprotein Is Critical for Alveolar Bone Healing in Mice. *J Dent Res*. 2023 Feb;102(2):187-196. doi: 10.1177/00220345221126716. Epub 2022 Nov 14. PMID: 36377066; PMCID: PMC9893390.
5. Mohamed FF, **Chavez MB**, Huggins S, Bertels J, Falck A, Suva LJ, Foster BL, Gaddy D. Dentoalveolar Defects of Hypophosphatasia are Recapitulated in a Sheep Knock-In Model. *J Bone Miner Res*. 2022 Oct;37(10):2005-2017. doi: 10.1002/jbmr.4666. Epub 2022 Aug 26. PMID: 36053890; PMCID: PMC9613530.
6. Nagasaki K, **Chavez MB**, Nagasaki A, Taylor JM, Tan MH, Ma M, Ralston E, Thew ME, Kim DG, Somerman MJ, Foster BL. The Bone Sialoprotein RGD Domain Modulates and Maintains Periodontal Development. *J Dent Res*. 2022 Sep;101(10):1238-1247. doi: 10.1177/00220345221100794. Epub 2022 Jun 9. PMID: 35686360; PMCID: PMC9403724.
7. Mohamed FF, **Chavez MB**, de Oliveira FA, Narisawa S, Farquharson C, Millán JL, Foster BL. Perspective on Dentoalveolar Manifestations Resulting From PHOSPHO1 Loss-of-Function: A Form of Pseudohypophosphatasia? *Front Dent Med*. 2022 Feb;3:826387. doi: 10.3389/fdmed.2022.826387. Epub 2022 Feb 3. PMID: 36185572; PMCID: PMC9521815.
8. Lira Dos Santos EJ, de Almeida AB, **Chavez MB**, Salmon CR, Mofatto LS, Camara-Souza MB, Tan MH, Kolli TN, Mohamed FF, Chu EY, Novaes PD, Santos ECA, Kantovitz KR, Foster BL, Nociti FH Jr. Orthodontic tooth movement alters cementocyte ultrastructure and cellular cementum proteome signature. *Bone*. 2021 Dec;153:116139. doi: 10.1016/j.bone.2021.116139. Epub 2021 Aug 5. PMID: 34364013; PMCID: PMC8478897.
9. Lira Dos Santos EJ, **Chavez MB**, Tan MH, Mohamed FF, Kolli TN, Foster BL, Liu ES. Effects of Active Vitamin D or FGF23 Antibody on Hyp Mice Dentoalveolar Tissues. *J Dent Res*. 2021 Dec;100(13):1482-1491. doi: 10.1177/00220345211011041. Epub 2021 Apr 27. PMID: 33906518; PMCID: PMC8640337.
10. Lira Dos Santos EJ, Salmon CR, **Chavez MB**, de Almeida AB, Tan MH, Chu EY, Sallum EA, Casati MZ, Ruiz KGS, Kantovitz KR, Foster BL, Nociti Júnior FH. Cementocyte alterations associated with experimentally induced cellular cementum apposition in Hyp mice. *J Periodontol*. 2021 Nov;92(11):116-127. doi: 10.1002/JPER.21-0119. Epub 2021 Jun 9. Erratum in: *J Periodontol*. 2022 Jul;93(7):1107. PMID: 34003518; PMCID: PMC8599496.
11. **Chavez MB***, Chu EY*, Kram V, Castro LF, Somerman MJ, Foster BL. Guidelines for Micro-Computed Tomography Analysis of Rodent Dentoalveolar Tissues. *JBMR Plus*. 2021 Mar; 5(3): e10474. PMCID: PMC7990153 PMID: 33778330.
12. Delaney C, **Chavez MB**, Tan MH, Kolli TN, Giovani PA, Hammersmith KJ, Bowden SA, Foster BL. Mineralization Defects in the Primary Dentition Associated With X-Linked Hypophosphatemic Rickets. *JBMR Plus*. 2021 Apr; 5(4): e10463. PMCID: PMC8046057 PMID: 33869987.
13. Kramer K^{1**}, **Chavez MB^{1**}**, Tran AT, Farah F, Tan MH, Kolli TN, Dos Santos E JL, Wimer HF, Millán JL, Suva LJ, Gaddy D, Foster BL. Dental defects in the primary dentition

- associated with hypophosphatasia from biallelic ALPL mutations. *Bone*. 2020 Nov 4;115732 PMID: 33160095 1****Co-First author**.
14. **Chavez MB**, Kramer K, Chu EY, Thumbigere-Math V, Foster BL. Insights into dental mineralization from three heritable mineralization disorders. *J Struct Biol*. 2020 Oct 1;212(1):1075970 PMID: 32758526.
 15. Wang SK, Zhang H, **Chavez MB**, Hu Y, Seymen F, Koruyucu M, Kasimoglu Y, Colvin CD, Kolli TN, Tan MH, Wang YL, Lu PY, Kim JW, Foster BL, Bartlett JD, Simmer JP, Hu JC. Dental malformations associated with biallelic MMP20 mutations. *Mol Genet Genomic Med*. 2020 Aug;8(8) PMID: 32495503.
 16. Chu EY, Vo TD, **Chavez MB**, Nagasaki A, Mertz EL, Nociti FH, Aitken SF, Kavanagh D, Zimmerman K, Li X, Stabach PR, Braddock DT, Millán JL, Foster BL, Somerman MJ. Genetic and pharmacologic modulation of cementogenesis via pyrophosphate regulators. *Bone*. 2020 Jul;136:115329. doi: 10.1016/j.bone.2020.115329. Epub 2020 Mar 26. PMID: 32224162; PMCID: PMC7482720.
 17. Xu H, Lenhart SA, Chu EY, **Chavez MB**, Wimer HF, Dimori M, Somerman MJ, Morello R, Foster BL, Hatch NE. Dental and craniofacial defects in the *Crtap*^{-/-} mouse model of osteogenesis imperfecta type VII. *Dev Dyn*. 2020 Jul;249(7):884-897. doi: 10.1002/dvdy.166. Epub 2020 Mar 12. PMID: 32133710; PMCID: PMC7727892.
 18. Xu H, Lenhart SA, Chu EY, **Chavez MB**, Wimer HF, Dimori M, Somerman MJ, Morello R, Foster BL, Hatch NE. Dental and craniofacial defects in the *Crtap*^{-/-} mouse model of osteogenesis imperfecta type VII. *Dev Dyn*. 2020 Mar 5 [Epub ahead of print]. PMID: 32133710.
 19. Zhang H, **Chavez MB**, Kolli TN, Tan MH, Fong H, Chu EY, Li Y, Ren X, Watanabe K, Kim DG, Foster BL. Dentoalveolar Defects in the Hyp Mouse Model of X-linked Hypophosphatemia. *J Dent Res*. 2020 Apr;99(4):419-428. doi: 10.1177/0022034520901719. Epub 2020 Jan 24. PMID: 31977267; PMCID: PMC7088204.
 20. **Chavez MB**, Kolli TN, Tan MH, Zachariadou C, Wang C, Embree MC, Lira Dos Santos EJ, Nociti FH Jr, Wang Y, Tatakis DN, Agarwal G, Foster BL. Loss of Discoidin Domain Receptor 1 Predisposes Mice to Periodontal Breakdown. *J Dent Res*, 98(13), 1521-1531, 2019. PMID: 31610730 PMCID: PMC6873285.
 21. Thumbigere-Math V, Foster BL, Bachu M, Yoshii H, Brooks S, **Chavez MB**, Coulter A, Togi S, Neely AL, Deng Z, Mansky KC, Ozato K, Somerman MJ. Inactivating Mutation in *IRF8* Promotes Osteoclast Transcriptional Programs and Increases Susceptibility to Tooth Root Resorption. *J Bone Mineral Res*, 34(6):1155-1168, 2019. PMID: 30840779 PMCID: PMC6663587.
 22. Hathaway-Schrader JD, Steinkamp HM, **Chavez MB**, Poulides NA, Kirkpatrick JE, Chew ME, Huang E, Alekseyenko AV, Aguirre JI, Novince CM. Antibiotic Perturbation of Gut Microbiota Dysregulates Osteoimmune Cross Talk in Postpubertal Skeletal Development. *Am J Pathol* 189(2): 370-390, 2019. PMID: 30660331. PMCID: PMC6360355.
 23. Williams DK, Pinzón C, Huggins S, Pryor JH, Falck A, Herman F, Oldeschulte J, **Chavez MB**, Foster BL, White SH, Westhusin ME, Suva LJ, Long CR, Gaddy D. Genetic engineering a large animal model of human hypophosphatasia in sheep. *Sci Rep* 8(1): 16945, 2018. PMID: 30446691. PMCID: PMC6240114.
 24. Wolf M, Ao M, **Chavez MB**, Kolli TN, Thumbigere-Math V, Becker K, Chu EY, Jäger A, Somerman MJ, Foster BL. Reduced orthodontic tooth movement in *Enpp1* mutant mice with hypercementosis. *J Dent Res* 97(8):937-945, 2018. PMID: 29533727. PMCID: PMC6728553.
 25. Steinkamp HM*, Hathaway-Schrader JD*, **Chavez MB**, Aartun JD, Zhang L, Jensen T, Shojaee Bakhtiari A, Helke KL, Stumpo DJ, Alekseyenko AV, Novince CM, Blackshear PJ, Kirkwood KL. Tristetraprolin Is Required for Alveolar Bone Homeostasis. *J Dent Res* 97(8):946-953, 2018. PMID: 29514008. PMCID: PMC6661319.

26. Shin M, **Chavez MB**, Ikeda A, Foster BL, Bartlett JD. MMP20 overexpression disrupts molar ameloblast polarity and migration. *J Dent Res* 97(7): 820-827, 2018. PMID: 29481294. PMCID: PMC6728588.
27. Foster BL, Ao M, Salmon CR, **Chavez MB**, Kolli TN, Tran AB, Chu EY, Kantovitz KR, Yadav M, Narisawa S, Millán JL, Nociti FH, Somerman MJ. Osteopontin regulates dentin and alveolar bone development and mineralization. *Bone* 107:196-207, 2018. PMID: 29313816. PMCID: PMC5803363.
28. Thumbigere-Math V, Alqadi A, Chalmers NI, **Chavez MB**, Chu EY, Collins MT, Ferreira CR, FitzGerald K, Gafni RI, Gahl WA, Hsu KS, Ramnitz MS, Somerman MJ, Ziegler SG, Foster BL. Hypercementosis Associated with *ENPP1* Mutations and GACI. *J Dent Res* 97(4):432-441, 2018. PMID: 29244957. PMCID: PMC5863873.
29. Ao M, **Chavez MB**, Chu EY, Hemstreet KC, Yin Y, Yadav MC, Millán JL, Fisher LW, Goldberg HA, Somerman MJ, Foster BL. Overlapping functions of bone sialoprotein and pyrophosphate regulators in directing cementogenesis. *Bone* 105:134-147, 2017. PMID: 28866368. PMCID: PMC5730356.
30. Novince CM, Whittow CR, Aartun JD, Hathaway JD, Poulides N, **Chavez MB**, Steinkamp HM, Kirkwood KA, Huang E, Westwater C, Kirkwood KL. Commensal Gut Microbiota Immunomodulatory Actions in Bone Marrow and Liver have Catabolic Effects on Skeletal Homeostasis in Health. *Sci Rep* 7(1):5747 2017. PMID: 28720797. PMCID: PMC5515851.
31. M.S Valerio, D.S. Basilakos, J.E. Kirkpatrick, **M. Chavez**, J. Hathaway-Schrader, B.A. Herbert, K.L. Kirkwood. Sex-based Differential Regulation of Bacterial-induced Bone Resorption. *J Periodontal Res* 52(3):377-387, 2017. PMID: 27509894. PMCID: PMC5303566.

NON-PEER REVIEWED PUBLICATIONS, CONFERENCE PROCEEDINGS, AND EDITORIALS

1. Foster BL, **Chavez MB**, Kramer K, Kolli TN, Tan MH, Narisawa S, Gaddy D, Suva LJ, Whyte MP, Millán JL. Hypophosphatasia and the functional importance of tissue-nonspecific alkaline phosphatase in dentoalveolar tissues. In: Abstracts from the First Scientific Meeting of the Soft Bones Foundation. *JBMR Plus*, S1-S14, 2018. PMID: Pending. PMCID: Pending.

BOOK CHAPTERS

1. Foster BL, **Chavez MB**, Kolli TN, Oldershaw L. Insights into cementogenesis from human disease and genetically engineered mice. In: Dental Cementum and Anthropology. Naji S, Rendu, W, Gourichon L (Eds.). 2019.

ABSTRACTS (*Presented abstracts)

1. ***Chavez MB**, Agarwal G, Goldberg HA, Foster BL. Atomic Scale Analysis of Bone Sialoprotein-Collagen Interactions. Iowa Local AADOCR 2024.
2. ***Chavez MB**, MH Tan, TN Kolli, EY Chu, HA Goldberg, BL Foster, Exogenous Bone Sialoprotein Enhances Alveolar Bone Healing in Mice, 28th Hinman Research Symposium, Memphis TN. 2023.
3. ***Chavez MB**, Tan MH, Kolli TN, Chu E, Goldberg HA, Foster BL. Exogenous Bone Sialoprotein Enhances Alveolar Bone Healing in Mice. AADOCR, 2023
4. Natalie A, **Chavez MB**, Fatma M, Tan MH, Kolli TN, Powers A, Foster BL. Gene-Editing Provides Functional Evidence for the Ectomesenchymal Origin of Cementoblasts. AADOCR 2023
5. Alexis P, Natalie A, **Chavez MB**, Tan MH, Kolli TN, Foster BL. Impaired Incisal Attachment and Eruption Following Bone Sialoprotein Conditional Ablation. AADOCR 2023
6. Leena E, Aonjittra P, **Chavez MB**, Tan MH, Kolli TN, Mohamed F, Foster BL. Sclerostin Ablation Improves Alveolar Bone Healing Following Tooth Extraction. AADOCR 2023

7. **Chavez MB**, Tan MH, Nagasaki K, Jocelyn T, Kolli TN, Chu E, Somerman M, Foster BL. Analysis of Bone Sialoprotein Functional Domains in Cementoblasts, in Vitro. AADOCR 2022
8. Mohamed F, **Chavez MB**, Shannon H, Bertels J, Falck A, Suva L, Foster BL. Dentoalveolar Defects of Hypophosphatasia are Recapitulated in a Sheep Knock-in Model. AADOCR 2022
9. Phanrungsuan A, **Chavez MB**, Tan MH, Kolli TN, Mohamed F, Salmon C, Nociti F, Foster BL. Effect of Sclerostin Deletion on Dentoalveolar Development and Molar Super-Eruption. AADOCR 2022
10. Natalie A, **Chavez MB**, Tan MH, Kolli TN, Foster BL. Dentoalveolar Defects From Conditional Deletion of Bone Sialoprotein in Neural Crest Cells. AADOCR 2022
11. ***Chavez MB**, Tan MH, Kolli TN, Goldberg HA, Foster BL. Genetic ablation of bone sialoprotein diminishes alveolar bone healing. IADR/AADR, July 2021
12. Mohamed FF, Kinoshita Y, Oliveira F, Fuad F, **Chavez MB**, Miyake K, Millan J, Foster BL. Prevention of Hypophosphatasia-Associated Dentoalveolar Defects Using AAV8—Mediated Gene Therapy. IADR/AADR, July 2021
13. Foster BL, **Chavez MB**, Duverger O, Steinkamp H, Kolli TN, Truxal K, Pastore M, Flaitz C, Deng Z, Gonzalez MH, McGrath S, Magrini V, Hammersmith K. Enamel Hypomaturational Defects in a Family With Presumptive Dentinogenesis Imperfecta. IADR/AADR, July 2021
14. Santos EL, **Chavez MB**, Mohamed FF, Kolli TN, Foster BL, Liu ES. Effects of Active Vitamin D or FGF23 antibody on Hyp mice dentalalveolar tissues. IADR/AADR, July 2021
15. Zachariadou C, **Chavez MB**, Tan MH, Kolli TN, Foster BL. Alveolar bone loss in DDR1 knockout mice with/without ligature-induced challenge. IADR/AADR, July 2021
16. ***Chavez MB**, Tan M, Kolli T, Goldberg HA, Foster BL. Impaired Alveolar Bone Healing in Bone Sialoprotein Knockout Mice. IADR/AADR, March 2020 (Hatton Competition)
17. ***Chavez MB**, Tan M, Kolli T, Goldberg HA, Foster BL. Bone Sialoprotein is Critical for Bone Healing. Hayes Forum, February 2020, Ohio State University.
18. Zacharadou, Doshi A, Kolli T, **Chavez MB**, Tan M, Tatakis DN, Foster BL. DDR1 Localizes to Epithelial Leading Edge During Palatal Wound Healing. IADR/AADR, March 2020
19. Kramer K, Tran A, **Chavez MB**, Kolli T, Tan M, Gaddy D, Suva L, Foster BL. Dental Defects Associated with Biallelic Mutations in *ALPL* and hypophosphatasia. IADR/AADR, March 2020
20. Farah FC, Tran AT, Kramer K, **Chavez MB**, Tan M, Kolli T, Millan J, Whyte M, Foster BL. Dental defects associated with clinical subtypes of pediatric hypophosphatasia (HPP). IADR/AADR, March 2020
21. Chu EY, **Chavez MB**, Thumbigere Math V, Aitken SF, Ziegler SG, Ferreira CR, Gafni RI, Foster BL, Somerman M. Dental Manifestations Associated with *ENPP1* and *ABCC6* Mutations. IADR/AADR, March 2020
22. Clayton D, **Chavez MB**, Tan M, Kolli T, Bowden S, Foster BL. Diminished Mineralization in the Primary Dentition from X-linked Hypophosphatemia. IADR/AADR, March 2020
23. Foster BL, **Chavez MB**, Steinkamp HM, Kolli T, Truxal KV, Pastore MT, Flaitz CM, Deng Z, Hammersmith KJ. Enamel Defects in A Family with Presumptive Dentinogenesis Imperfecta. IADR/AADR, March 2020
24. Nagasaki K, Ma M, **Chavez MB**, Ao M, Chu EY, Nagasaki A, Ferebee S, Kear BD, Foster BL, Somerman M. The BSP RGD Domain Regulates Periodontal Ligament Formation During Development. IADR/AADR, March 2020
25. ***Chavez MB**, Tan MH, Kolli TN, Foster BL. Defective alveolar bone healing in mice genetically ablated for bone sialoprotein. ICCBMT, 2019. (Young Investigator Award)

26. Foster BL, **Chavez MB**, Tan MH, Kolli TN, Tran A, Kramer K, Thumbigere-Math V, Chu EY, Ferreira CR, Zhang H, Suva LJ, Gaddy D, Bowden SA, Millan JL, Whyte MP, Somerman MJ. Disparate manifestations of hereditary rachitic disorders in dentoalveolar mineralized tissues. ICCBMT, 2019.
27. Nagasaki A, Tadesse W, Chu EY, Nagasaki K, Nociti FH, **Chavez MB**, Foster BL, Somerman MJ. Cementum regeneration is augmented with loss of ANK and ENPP1. IADR/AADR/CADR, June, 2019.
28. Chu EY, Vo TD, Nagasaki A, **Chavez MB**, Nagasaki K, Kavanagh D, Stabach P, Braddock D, Zhang F, Liu C, Thumbigere-Math V, Somerman MJ, Foster BL. Distinct roles of pyrophosphate regulators, ANK and ENPP1, in cementogenesis. IADR/AADR/CADR, June, 2019.
29. Nagasaki K, **Chavez MB**, Chu EY, Ma M, Alexander RM, Nagasaki A, Vo TD, Tadesse W, Foster BL, Somerman MJ. Bone sialoprotein modulates periodontal complex in conjunction with osteopontin. IADR/AADR/CADR, June, 2019.
30. ***Chavez MB**, Kolli TN, Tan MH, Zachariadou C, Wang C, Embree M, Wang Y, Tatakis DN, Agarwal G, Foster BL. Discoidin Domain Receptor 1 (*Ddr1*) Ablation Predisposes Mice to Periodontitis. IADR/AADR/CADR, June, 2019.
31. Zhang H, **Chavez MB**, Kolli TN, Tan MH, Fong H, Chu EY, Li Y, Ren X, Watanabe K, Kim D-G, Foster BL. Dentoalveolar defects in the *Hyp* mouse model of X-linked hypophosphatemia. IADR/AADR/CADR, June, 2019.
32. Colvin C, **Chavez MB**, Kolli TN, Tan MH, Ikeda A, Bartlett JD, Foster BL. Altered dentinogenesis in mice lacking matrix metalloproteinase 20 (MMP20). IADR/AADR/CADR, June, 2019.
33. Tran A, **Chavez MB**, Kramer K, Tan MH, Suva LJ, Gaddy D, Foster BL. Novel dental effects of hypophosphatasia on mantle dentin mineralization. IADR/AADR/CADR, June, 2019.
34. ***Chavez MB**, Kolli TN, Tan MH, Zachariadou C, Wang C, Embree M, Wang Y, Tatakis DN, Agarwal G, Foster BL. Discoidin Domain Receptor 1 (*Ddr1*) Ablation Predisposes Mice to Periodontitis. Ohio State Graduate Hayes Forum, February, 2019. **Second place**
35. ***Chavez MB**, Kolli TN, Tan MH, Zachariadou C, Wang C, Embree M, Wang Y, Tatakis DN, Agarwal G, Foster BL. Discoidin Domain Receptor 1 (*Ddr1*) Ablation Predisposes Mice to Periodontitis. Ohio State, College of Dentistry Research Day, February 26, 2019.
36. Tran AT, **Chavez MB**, Kramer K, Tan MH, Suva LJ, Gaddy D, Foster BL. Novel dental effects of hypophosphatasia on mantle dentin mineralization: Case report of a child with compound heterozygous *ALPL* mutations. The Ohio State University Denman Undergraduate Research Forum, Columbus, Ohio, February 20, 2019.
37. Tran AT, **Chavez MB**, Kramer K, Tan MH, Suva LJ, Gaddy D, Foster BL. Dental manifestations of the inherited mineralization disorder hypophosphatasia. Ohio Dental Hygienists' Association 95th Annual Session, Columbus, Ohio, November, 2018.
38. Tran AT, **Chavez MB**, Kramer K, Tan MH, Suva LJ, Gaddy D, Foster BL. Dental manifestations of the inherited mineralization disorder hypophosphatasia. Autumn Undergraduate Research Festival, The Ohio State University, November, 2018.
39. Chu EY, Nagasaki A, **Chavez MB**, Leigh D, Vo T, Coulter A, Thumbigere-Math V, Braddock D, Somerman MJ, Foster BL. Pyrophosphate regulators, ANK and ENPP1, regulate cementogenesis and extracellular matrix protein expression. ASBMR, September-October, 2018.
40. **Chavez MB**, Kramer Km Kolli TK, Tan MH, Narisawa S, Gaddy D, Suva LJ, Whyte MP, Millán JL, Foster BL. Hypophosphatasia and the functional importance of tissue-nonspecific alkaline phosphatase in dentoalveolar tissues. Soft Bones Scientific Meeting, Chicago, IL, June, 2018.

41. **Chavez MB**, Flaitz C, Foster BL, Hammersmith K, Steinkamp HM. Shell Game with Dentinogenesis Imperfecta: Case Report. American Academy of Pediatric Dentistry (AAPD), May, 2018.
42. Thumbigere-Math V, Alqadi A, Chalmers NI, **Chavez MB**, Chu EY, Collins MT, Ferreira CR, FitzGerald K, Gafni RI, Gahl WA, Hsu KS, Ramnitz MS, Somerman MJ, Ziegler SG, Foster BL. Hypercementosis associated with *ENPP1* mutations and generalized arterial calcification in infancy. AADR/CADR, March, 2018.
43. Thumbigere-Math V, Coulter A, Foster BL, Ma M, **Chavez MB**, Neely A, Yoshii H, Ozato K, Somerman MJ. Characterization of periodontal tissues in an *Irf8* knock-out mouse model. AADR/CADR, March, 2018.
44. Nagasaki A, Chu EY, Leigh D, Vo T, **Chavez MB**, Foster BL, Somerman MJ. ANK and ENPP1 have significant roles in cementogenesis. AADR/CADR, March, 2018.
45. ***Chavez MB**, Nagasaki K, Ao M, Chu EY, Coulter AG, Goldberg HA, Foster BL, Somerman MJ. BSP RGD domain has a role in alveolar bone modulation. AADR/CADR, March, 2018.
46. ***Chavez MB**, Nagasaki K, Ao M, Chu EY, Coulter AG, Goldberg HA, Foster BL, Somerman MJ. BSP RGD domain has a role in alveolar bone modulation. The Ohio State University College of Dentistry Research Day, February, 2018.
47. Wang C, Kolli TN, **Chavez MB**, Agarwal G, Foster BL. Expression and functional importance of discoidin domain receptors in dentoalveolar tissues. The Ohio State University Denman Undergraduate Research Forum, April, 2017.
48. Wang C, Kolli TN, **Chavez MB**, Agarwal G, Foster BL. Expression and functional importance of discoidin domain receptors in dentoalveolar tissues. IADR/AADR/CADR, March, 2017.
49. Foster BL, Ao M, **Chavez MB**, Kolli TN, Chu EY, Millán JL, Somerman MJ. Coordinated regulation of cementogenesis by matrix and mineralization factors. IADR/AADR/CADR, March, 2017.
50. Wang C, Kolli TN, **Chavez MB**, Agarwal G, Foster BL. Expression and functional importance of discoidin domain receptors in dentoalveolar tissues. The Ohio State University College of Dentistry Research Day, February, 2017.
51. "Oral Microbiota has Osteoimmunomodulatory Effects Distinct from the Systemic Microbiome." Primary Author Dr. Chad Novince, International Association for Dental Research. San Francisco, CA. 2017
52. Oral Presentation: "Gut commensal flora, a dynamic osteoimmunomodulator, driving skeletal catabolism in health." Primary Author Dr. Chad Novince, American Association for Dental Research. Los Angeles, CA. 2016
53. Oral and Poster Presentation: "Tristetraprolin is Required for Alveolar Bone Homeostasis." Primary Author Dr. Heidi Steinkamp, International Association for Dental Research. Seoul, KOR. 2016 (Hatton award 2nd place)
54. Oral and Poster Presentation: "Tristetraprolin is Required for Alveolar Bone Homeostasis." Primary Author Dr. Heidi Steinkamp, American Association for Dental Research. Los Angeles, CA. 2016 (Hatton award 2nd place)
55. Oral Presentation: "The Oral Commensal Flora, a Dynamic Regulator of Alveolar Bone Remodeling" Primary Author Dr. Chad Novince, Medical University of South Carolina, Research Day. Charleston, SC. 2016
56. Poster Presentation: "Cilia defects lead to reduced dentin in murine molars" Primary Author Dr. Courtney Haycraft, International Association for Dental Research. Seattle, WA. 2013

PEER REVIEW

Annals of Anatomy, *Ad Hoc* reviewer, 2023-present

Journal of Periodontology, *Ad Hoc* reviewer, 2019-present
Journal of Periodontal Research, *Ad Hoc* reviewer, 2021-present
Frontiers in Dental Medicine, Review Editor (Systems Integration) 2020-present

PROFESSIONAL ORGANIZATIONS AND AFFILIATIONS

American Academy of Pediatric Dentistry (AAPD) 2019-2021
American Student Dental Association (ASDA) 2017-Present
International Association for Dental Research (IADR) 2017-Present
IADR Mineralized Tissue Group 2017-Present
IADR Periodontal Research Group 2017-Present

COMMUNITY SERVICE AND LEADERSHIP EXPERIENCES

2023	UI REACH (Realizing Educational and Career Hopes) dental day
2023	Give Kids a Smile, Iowa City IA.
2023	Class representative, Iowa Student Research Group, College of Dentistry, University of Iowa, Iowa City, IA.
2022	UI REACH (Realizing Educational and Career Hopes) dental day
2022	Give Kids a Smile, Iowa City IA.
2021	Give Kids a Smile, Iowa City IA.
2019	Graduate Student Representative. College of Dentistry Research Committee. College of Dentistry, Ohio State University, Columbus, OH.
2018	Graduate Student Representative. Student Research Awards Committee. College of Dentistry, The Ohio State University, Columbus, OH.