

Keith Lough Kirkwood, D.D.S., Ph.D.

Curriculum Vitae

WORK ADDRESS

Senior Associate Dean for Research
Professor and Centennial Endowed Chair
School of Dental Medicine
University at Buffalo
The State University of New York
645 Biomedical Research Building
3435 Main St.
Buffalo, New York 14214-8006
716.829.6667 (office)
716.829.2154 (laboratory)
klkirk@buffalo.edu

PLACE OF BIRTH Clarksburg, West Virginia

MARITAL STATUS Married, two children

EDUCATION

B.A. Chemistry, <i>Cum Laude</i>	1987
West Virginia University	
D.D.S. Dentistry	
West Virginia University	1991
Ph.D. Oral Biology	1997
State University of New York at Buffalo	
Thesis: Molecular Studies of the Inositol 1,4,5-Trisphosphate Receptor in Human Osteoblasts	

POSTDOCTORAL TRAINING

Certificate (Periodontology)	
State University of New York at Buffalo	1995
Post-Doctoral Fellowship (Molecular Biology)	
State University of New York at Buffalo	1999

SABBATICAL TRAINING

Clinical Research Management	
National Institutes of Health	2014

LEADERSHIP TRAINING

ADEA/AAL Chairs and Academic Administrators	
Management Program	2014
ADEA Leadership Institute	2016-17
ADEA Council of Deans Fellowship Program	2025-26

ACADEMIC APPOINTMENTS

Clinical Instructor, Department of Periodontics	
University at Buffalo	1995-97
Clinical Assistant Professor, Department of Periodontics	
University at Buffalo	1997-2000
Clinical Assistant Professor, Dept. of Oral Biology	

University at Buffalo	1997-1999
Assistant Professor, Dept. of Periodontics and Endodontics	
University at Buffalo	2000-2003
Research Assistant Professor, Dept. of Pharmacology & Toxicology	
University at Buffalo	2002-2003
Assistant Professor, Dept. of Periodontics and Oral Medicine	
University of Michigan	2004- 2007
Associate Professor (<i>with tenure</i>), Dept. of Periodontics & Oral Medicine	
University of Michigan	2007
Associate Dean for Research, College of Dental Medicine	
Medical University of South Carolina	2008-2017
Associate Professor (<i>with tenure</i>), and Founding Chair, Dept. of Oral Health Sciences	
Medical University of South Carolina	2008-2010
Associate Professor of Microbiology and Immunology,	
Medical University of South Carolina	2008-2010
Professor (<i>with tenure</i>) and Chair, Dept. of Oral Health Sciences	
Medical University of South Carolina	
Adjunct Professor, Dept. of Microbiology and Immunology	
Medical University of South Carolina	2010-2017
Adjunct Professor, Dept. of Bioengineering	
Clemson University	2010-2017
Professor of Oral Biology, School of Dental Medicine,	
University at Buffalo	2017-present
Consulting Physician, Department of Oral Oncology,	
Roswell Park Comprehensive Cancer Center	2018-2020
Program Member, Tumor Immunology and Immunotherapy	2018-present
Research Program, Roswell Park Comprehensive	
Cancer Center	
Centennial Endowed Professor/Chair, School of Dental Medicine	2019-present
Associate Dean for Innovation and Technology Transfer	2019-2021
Adjunct Research Professor of Oncology, Department of	2020-present
Head & Neck/Plastic & Reconstructive Surgery, Roswell Park	
Comprehensive Cancer Center	
Interim Chair, Department of Periodontics and Endodontics	2021-2022
Senior Associate Dean for Research	2022-present

CERTIFICATES AND LICENSES

Northeast Regional Board of Dental Examiners	1991
State of New York	
License to practice dentistry	1991-present
Diplomate, American Board of Periodontology	2004-present
State of Michigan	
License to practice periodontics	2004-2017
State of South Carolina	
License as Dental Instructor Specialist	2016-2019

OTHER PROFESSIONAL EXPERIENCE

Private Practice Limited to Periodontics	
Barzman, Kasimov, and Vieth, DDS, PC, Getzville, NY	1998-2000
Private Practice Limited to Periodontics	
University Dental Associates, Buffalo, NY	2000-2003
Private Practice Limited to Periodontics	
Great Expressions Specialty Practice, Livonia, MI	2006-2008

Consulting Physician, Roswell Park Comprehensive Cancer Center, Department of Oral Oncology, Buffalo, NY	2018-2020
Consulting Scientist, Roswell Park Comprehensive Cancer Center, Department of Head/Neck Surgery, Buffalo, NY	2020-present
Attending Periodontist, Western NY VA Medical Center, Buffalo, NY	2020-2022

HONORS AND AWARDS

<i>Cum Laude</i> , Chemistry	1987
Mary Baab Randolph Cancer Center Student Research Fellowship, West Virginia University	1987, 1988
First Prize, ADA Student Clinician Award	1990
Quintessence Research Award for Research Achievement	1991
NIH Dentist-Scientist Award (K16)	1991-1996
Mark Diamond Research Award	1996
Individual National Research Service Award (F32)	1997
Osseointegration Foundation Research Grant Award	2000
Judge, ADA Student Clinician Program	2002-05
Young Investigator Award, University at Buffalo	2002
Tarrson Fellowship Career Development Award, AAP Foundation	2005-2008
IADR/GSK Innovation in Oral Care Award	2008, 2014
Elected, Member-at-Large IADR/AADR Publications Committee	2009
Elected, Omicron Kappa Upsilon, Lambda Lambda Chapter	2011
IADR Distinguished Scientist Award for Pharmacology/Therapeutics/Toxicology Research	2013
Selected, Fellow of the AADR	2016
Recipient, Sunstar - AAP Foundation Research Fellowship	2016
Fellow, ADEA Leadership Institute	2016-17
Recipient, IADR/PRG Award in "Innovative approaches to prevention and non-surgical treatment of periodontal and peri-implant diseases"	2018

MEMBERSHIPS AND OFFICES IN PROFESSIONAL AND RESEARCH SOCIETIES

American Association of Dental Research/ International Association for Dental Research Pharmacology/Toxicology/Therapeutic Group	1987-present
Secretary Treasurer	2002-2005
Vice President	2005
President Elect	2006
President	2007
Immediate Past President	2008
AADR Ethics in Dental Research Committee	2005-2008
IADR/AADR Publications Committee	2009-2011
AADR Hatton Award Committee	2011-2013
IADR Distinguished Scientist Award Committee	2017-present
American Dental Association	1987-2020
Vice President, WVU Dental Class '91	1988-90
President, WVU Student Research Group	1990-91
American Academy of Periodontology	1991-present
AAP Subcommittee on Research Submissions	2001-2003, 2008-2012
Nominated for AAP Board of Trustees (7 th District)	2002
New York State Dental Association	1995-2003
American Association for Bone and Mineral Research	1995-present

American Society for Biochemistry and Molecular Biology	2007-2012
The American Society of Gene & Cell Therapy	2008-2012
Member, Endocrine Society	2012-2012
Inflammation Research Association	2009-2012
Eight District Dental New York	1995-2003, 2017-present
Erie County Dental Society	1995-2003, 2017-present
Program Director	2003
New York State Society of Periodontists	1997-2002
Academy of Osseointegration	2000-2002
RNA Society	2004-2010
Michigan Dental Society	2004-2007
Michigan Periodontal Society	2004-2007

SERVICE

University Level

University at Buffalo; 2000-2003

Served on Curriculum Committee (2001-2003)

Served on Bylaws Committee (2001-2003)

Served on Student Research Committee (2000-2003)

Chairman, Ad Hoc Committee for Accreditation, Biomedical Sciences, 2002-2003

Major Professor for the following students:

Dr. Troy Thompson (defended May 2002)

Dr. Fuwad Al-Sabek (defended May 2003)

Served on Thesis Committees for the following students:

PhD Candidates:

Matt Ruddy (Major Professor: Sarah Gaffen, Oral Biology, defended 2003)

Pedro Li (Major Professor: Stelios Andreadis, Chemical Engineering, defended 2004)

Masters Candidates:

Lynn Solomon (Major Professor: Mizrda Neiders, defended 2004)

Served on Preliminary Exam Committee for Xin Liu (Oral Biology, 2002)

University of Michigan; 2003-2008

Honor System Review Committee; 2004-2008

Bylaws Committee, 2006-2008

Strategic Assessment Facilitating Committee (SAFCo) for Faculty (2006)

Search Committee for Pediatric Dentistry (2005)

Search Committee for Periodontics and Oral Medicine (2005, 2006)

Research Committee, Periodontics and Oral Medicine (2004-2008)

Judge, UM Dental School Research Day, 2005-06

Bylaws Committee, 2006-2008

Oral Health Sciences Ph.D. Preliminary Exam Committee, 2007

Served on Thesis Committees for the following students:

PhD Candidates:

Chetan Patil (Major Professor; K.L. Kirkwood)

Elizabeth VanTubergen (Major Professor: N.J. D'Silva)

Masters Candidates:

Jill Rogers (Major Professor; K.L. Kirkwood)

Sunica Travan (Major Professor; K.L. Kirkwood)

Medical University of South Carolina (2008-2017)

College of Dental Medicine

Dean's Executive Advisory Committee
Postdoctoral M.S.D. Curriculum Committee
Research Committee (Chair)
Self-Study Committee Chair for Ad Hoc Committee Research (2010-11, 2015-2017)
Self-Study Committee Co-Chair for Ad Hoc Committee for Basic Sciences (2010-11)

University Level

Graduate Council (2008-2017)
Hollings Cancer Center Executive Council (2009-2017)
MUSC Web Redesign Committee (2009)
South Carolina Clinical & Translational Research Institute K12 Mentored Career Development Review Committee (2009)
MUSC Foundation Developing Scholars Awards Committee (2009, 2011)
MUSC Strategic Plan Committee, Interprofessional/Interdisciplinary Collaboration Working Group (2010)
MUSC Library's Learning Commons Advisory Council (2010-2017)
Mentoring Leadership Council Member (2010-2017)
Hollings Cancer Center Internal Advisory Council (2012-2017)
University Research Council (2013-2017)
University Research Conflict of Interest Committee (2013-2017)
MUSC FRD Board of Directors (2014-2017)
Search Committee Member, Vice President for Research (2015)
Search Committee Member, Director of Hollings Cancer Center (2015-16)
Search Committee Member, Dean for College of Dental Medicine (2016)
SCTR KL2 Steering Committee (2015-2017)
SCTR TL1 Steering Committee (2015-2017)
Member, MUSC Legislative Advisory Group (2016-2017)
Vice President for Research/Office of Research Development Advisory Committee (2017)

Served on Thesis Committees for the following students:

PhD Candidates:

Alfred Griffin (Major Professor: K.L. Kirkwood)
Michael Defee (Major Professor: C. Parsons)
Mille Embree (Major Professor: M. Young)
David Sentelle (Major Professor: B. Ogretmen)
Joseph Chung (Major Professor: J. Norris)
Elizabeth Van Tubergen (Major Professor: N.J. D'Silva, U of Michigan)
Eleni Katsanevakis (Major Professor: X. Wen)
Bethany Herbert (Major Professor: K.L. Kirkwood)
Tina Zhang (Major Professor: K.L. Kirkwood)
Caroline Wallace (Major Professor, Z. Li)
Joy Kirkpatrick (Major Professor: P. Wooster)

Masters Candidates:

Joni Dunmyer (Major Professor: K.L. Kirkwood)
Mary Gray (Major Professor: K.L. Kirkwood)
Justin McAbee (Major Professor: K.L. Kirkwood)
Jeff Barzyk (Major Professor: K.L. Kirkwood)
Michael Nguyen (Major Professor: K.L. Kirkwood)

Trenton Jensen (Major Professor: K.L. Kirkwood)

University at Buffalo; 2017-present

School of Dental Medicine

School of Dental Medicine search committee for Core Facility Manager for the Dept. of Oral Biology (2018)

Tenure-track committee for Dr. Praveen Arany, Assistant Professor in the Dept. of Oral Biology (2018-2022)

Tenure-track committee and KL2 mentor for Dr. Edward Kwon, Assistant Professor in the Dept. of Oral Biology (2018-2023)

SDM Student Research Review Committee (2018-2020)

Basic Sciences Representative, Clinical Practice Management Plan (CPMP) Governing Board (2018-present).

Executive Council, School of Dental Medicine, 2019-present

SDM Information Technology Steering Committee [ITSC] 2022-present

Member, SDM Facilities Management Committee (2022-present)

University Level

UB Clinical and Translational Science Institute (CTSI) Steering Committee Member (2018-present)

UB Clinical and Translational Science Institute (CTSI) Workforce Development Steering Committee Member (2018-present)

KL2 Scholar Mentor for Dr. Hyuk Jae Edward Kwon 2020-2022

University Associate Deans for Research Committee 2022-present

Member of Oversight Committee, Buffalo Translational Consortium (BTC) Clinical Research Achievement Awards (2022-present)

Served on Thesis Committee Meetings for the following students:

PhD Candidates:

Jiho Sohn (MD/PhD) (Major Professor: K.L. Kirkwood)

Yin Luo (Major Professor: D. Xu)

Natalie Anselmi (Major Professor: J. Kay)

Armond June (MD/PhD) (Major Professor: P. Diaz)

Edwin Ovalle (Major Professor: J. Kay)

Dayron M Leyva Rodriguez (Major Professor: M. Visser)

Omar Glover (Perio/PhD) (Major Professor: K.L. Kirkwood)

Masters Candidates:

Yuxiang Pan (Major Professor: K.L. Kirkwood)

Cameron Kirkwood (Major Professor: K.L. Kirkwood)

Jade Green (Major Professor: K.L. Kirkwood)

Community Level

Served as Program Director for the Erie County Dental Society (2002-2003)

Oral Cancer Screenings for Hollings Cancer Center (2012-2017)

National Committees

American Association for Dental Research

Secretary/Treasurer for the Pharmacology Toxicology Therapeutics Group of the IADR/AADR (2002-2005)

Vice President for the Pharmacology Toxicology Therapeutics Group of the IADR/AADR (2005-2006)

President-Elect for the Pharmacology Toxicology Therapeutics Group of the IADR/AADR (2006-2007)

AADR Ethics in Dental Research Committee; 2005-2008

Served as member of the AAP Subcommittee of Research Submissions (2001-2003)
Judge, ADA Student Clinical Program, Basic Sciences Category (2002-2005).
Session Chair, American Association for Dental Research, Baltimore MD (2005)
Organized and Chaired AADR Symposium, *Cytokine and Signal Transduction Blockers for the Treatment of Inflammatory Periodontal Diseases*, Baltimore, MD (2005).
Elected to be Member-at-Large IADR/AADR Publications Committee (2009)
2010-2014 AADR Hatton Awards Committee
Hatton Committee, IADR (2012-15)
IADR Distinguished Scientist Awards Committee (2015-present)
AADR Fellows Committee (2018-present)

American Academy of Periodontology

AAP Annual Meeting Abstract Submission Review (2005-2015)
Tarrson Selection Committee, American Academy of Periodontology (2008-2018)
World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions (2017)

Committee Member, Big Mouth Dental Data Repository, Consortium of Oral Health Research and Informatics (2021-2025)

Peer Review

Editorial Board:

Molecular Oral Microbiology
Current Oral Health Reports
Journal of Dental Research
Frontiers in Oral Health (Associate Editor)
Journal of Periodontology

Ad Hoc reviewer for the following journals:

Proceedings of the National Academy of Sciences
Applied Biochemistry and Biotechnology
Molecular Therapy
Journal of Periodontology
Journal of Biological Chemistry
Journal of Cellular Biology
Bone
Journal of Bone and Mineral Research
Molecular and Cellular Biology
American Journal of Pathology
Journal of Immunology
Science Translational Medicine
Cancer Research
Cancer
Cancer Immunology
Journal of Immunology
Frontiers Journals (Immunology, Cancer, Oral Health, Physiology)
Cell Reports

NIH Study Section Reviewer

ZRR1 SEPA-3 Science Education Partnership Award 6/2004
ZAR1 GHZ-D Review of Small Research Grants-(R03s) 10/2004
ZRG1 IMM-F Regulation of Cytokine Production 3/2005
ZRG1 III Innate Immunity and Inflammation 7/2005

ZRR1 SEPA-9 Science Education Partnership Award 4/2006
ZDE1 RW 32 Osteoimmunology-Crosstalk between the Immune System and Bone 6/2008
ZDE1 VH (12) Translational Application of Gene Silencing Strategies to Oral and Craniofacial Disorders for NIDCR 8/2009
RC2 NIDCR Grand Opportunity Grants area: Multidisciplinary Approaches to Craniofacial Regeneration and Preclinical Testing 7/2009
National Research Foundation (NRF) of the United Arab Emirates 3/2009
ZRG1 MOSS-B (02) S Oral Microbiology, Immunology, Cell Biology and Periodontal Diseases 10/ 2010
MOSS ORAL, DENTAL AND CRANIOFACIAL SCIENCES STUDY SECTION 10/2010
MOSS Skeletal Biology Development and Disease Study Section 2/2011
ZRG1 MOSS-C90 Editorial Board Review Meeting 10/2011
ZDE1 MH 19 1, Special Emphasis Panel and Chair 5/2013
ZRG1 MOSS-C (02) M Special Emphasis Panel 11/2013
ZRG1 MOSS-U (82) Special Emphasis Panel and Chair 07/2014
ORAL, DENTAL AND CRANIOFACIAL SCIENCES STUDY SECTION (standing member 2015-2021)
ZDE1 JFR (11) T32 and T90/R90 Special Emphasis Panel 3/2022
ZDE1-(06) NIDCR PREVENTION OF OPIOID DRUG MISUSE AND ABUSE Special Emphasis Panel 7/22
ZDE1-(07) CLINICAL STUDIES 10/2022
ZDE1 YM (09) Review of NIDCR R03 and DSR Member-Conflict Applications 11/2023
ZDE1 JC (11) Review of NIDCR R03 and DSR Member-Conflict Applications 2/24 (Acting Chair)
ZDE1 JC (08) Review of NIDCR Fellowship (Fs), DSR Member-Conflict (K99 and R03), and Conference (R13) Applications 3/25 (Acting Chair)
ZRG1 BN-A (50) RFA Panel Member: R01 - Mitochondrial Nuclear Communication in AD/ADRD) 6/25
ZRG1 MSOS-L(04) CSR Special Emphasis Panel for Member Conflict: Musculoskeletal Sciences 01/26 (Chair)

External Advisory Board Member

Dental Academic Research Training Program (DART), University of Alabama at Birmingham (UAB) School of Dentistry (2011-15)

Training Program for the Next Generation of Oral Health Researchers (NextGen), University of North Carolina at Chapel Hill (UNC) School of Dentistry (2011)

TEACHING ACTIVITIES

A. Courses taught (course title, number, calendar years taught)

University at Buffalo 2000-2006

PER 846 Dental Therapeutics (4th Year Dental Students; 82-94 students; 2000-2003)- Course Director; Lectured 8 lectures on Dental Therapeutics including Analgesics, Antibiotics, Antifungal Agents, Antiviral Agents, Fluorides/Desensitizing Agents, Herbal Therapeutics, Board Review, Case Studies, and Prescription Writing.

PMY 831 Dental Pharmacology (3rd Year Dental Students; 82-94 students; 2000-2003)-2 Lectures on Opioid Analgesics

BCP 406/512 Fundamentals of Pharmacology (1st Year PharmD Students and undergraduate BCP majors; ~120 students; 2000-2003)- 2 Lectures on Opioid Analgesics

BCP 302 Introduction to Pharmacology (3rd Year Nursing Students, 130 students; 2000-2003)- 2 Lectures on Opioid Analgesics

PER 603 Periodontal Biology (Post Graduate Periodontal Residents; 2000-2003) - Faculty mentor for one seminar each semester.

PER 928 Advanced Surgical Endodontics (Post Graduate Endodontic Residents; 2000-2003)-one lecture on GTR in endodontics and periodontics

PER 912 Advanced Periodontics Clinic (Post Graduate Periodontal Residents) – supervise residents in clinic every Thursday (2 half days per week; 2000-2003)

PER 917 Critical Analysis of Literature in Periodontics (Post Graduate Periodontal Residents; 2000-2003) – participated as a faculty member

RDN 937 Prosthodontic Literature Seminar (Prosthodontic residents; 2000-2003) - lecture on GTR in periodontics and literature analysis of GTR in periodontics

ORB/MIC 611 Cytokines and Inflammation (~15 graduate students, 2003)-two lectures on RANKL Signaling in Bone

CE 564 Tissue Engineering (~10 graduate students: 2001-2003)-two lectures in bone biology and tissue engineering

PER 832 Periodontal Surgery (3rd Year Dental Students; 2000-2003) - two lectures on connective tissue grafts and esthetic crown lengthening.

PMY 517/518 Molecular Pharmacology (~20 graduate students; 2000-2003)-four lectures on opioid pharmacology and molecular mechanism of tolerance.

PER 653 Thesis Guidance (Graduate Students; 2000-2003)

University of Michigan 2004-2008

Dent Ed 645 Integrated Medical Sciences – III (IV) (Course Director; 2nd Year Dental Students, 2004-2007)

Dent Ed 606 Mineralized Tissues (~25 graduate students; 2004,-2007)-one lecture entitled “Local Mediators of Bone Destruction” and (~25 graduate students; 2005) one lecture entitled “Systemic Mediators of Bone Destruction”

Dent Ed 620/720 Comprehensive Care Clinic (~80 dental students; 2004, 2005, 2006, 2007)-two half days of clinical teaching per semester

DH 425 Periodontal Therapy (~40 dental hygiene students; 2005, 2006, 2007)-two lectures per semester. “Periodontal Urgencies” and “Esthetic Periodontal Considerations”.

Dent Ed 786 Periodontal Therapy (~25 residents, 2005, 2006, 2007)—two lectures per semester. “The role of microbiology in periodontal therapy” and “Periodontal Urgencies”.

Dent Ed 780 Grad Periodontal Clinic (~12 residents, 2006, 2007)—one ½ per week supervising graduate periodontics clinic.

Dent Ed 746 Periodontal Therapy II (~100 dental students; 2005, 2006, 2007)-one lecture on Esthetic Periodontal Surgical Techniques

Dent Ed 540 Integrated Medical Sciences – II (~100 dental students; 2006, 2007)-one lecture on Inflammation and Bone Turnover

MCDB 300 Independent Research (J. Othemba, 2006)-mentoring undergraduate research from Molecular, Cellular, and Developmental Biology (MCDB) program

Medical University of South Carolina 2008-2017

Stoma-861 Graduate Dental Core Curriculum (12 residents; 2009)—4 lectures in Molecular Biology for Dental Residents

MBIM 716 Development of Molecular Cancer Therapies: From Bench to Bedside—two lectures to graduate students in translational medicine

MCBP-801 Cell and Molecular Biology of Mineralized Tissues Course Director (2009-11)—Graduate students in Molecular Cellular Biology and Pathobiology Program

MCBP-747 Oral Health Sciences Seminar Series (Course Director)—bimonthly seminars with internal and external speakers.

MCBP-745 Topics in Oral Health Sciences (Faculty)

MCBP-960 Research—graduate students’ lab research

MCBP-980 Thesis—graduate students

MCBP-990 Dissertation—graduate students

OHS-835 Preventive Dentistry Course Director 2012-2016. First year dental students

OHS-902 Biochemical Aspects of Oral Biology Course Director 2012-14. First year dental students

OHS-870 Nutrition and Dental Health Co-Director 2012-2016 First year dental students

OHS-601 Dental Biochemistry Co-Director 2013-14. First year dental students

MDCOR 827 Pathogens and Host Defense B—lecture to 2nd year medical students on oral-systemic diseases.

PCOL721 Advanced Principles of Pharmacology—lecture on RNA biology and therapeutic strategies to control inflammation to graduate students.

University at Buffalo 2017-present

PER916 Seminar in Periodontics—one lecture to graduate students (Spring 2018)

BIO615 Advanced Research Topics—MA student in Biological Sciences (2018-19)

OS510 - Research Seminar in the Oral Sciences--lecture to graduate students (Fall 2019)

MIC506 The Human Microbiome Section—2 lectures to graduate students (2019-22)

PER603 Seminars in Periodontics—seminar to periodontal residents on “Host Response and Periodontal Disease” (Fall 2022)

ORB826: Oral Sciences & Preventive Dentistry II—lectures on local/systemic factors that influence periodontal diseases and osteoclast biology (2020-present)

PER821 Introduction to Periodontics & Prevention—lectures on local and systemic factors in periodontal disease and smoking/smoking cessation

ORB498 Undergraduate Research—mentoring undergraduate students in my laboratory

CLD870 Introduction to Clinical Translational Research one lecture on K12 Scholars Program (2020-present)

ORB 512 Research Design in the Oral Sciences co-director and one lecture (2024-present)

B. Student/Junior Faculty Mentoring

University of Buffalo (2000-2003)

Type of Student	Name	Project Responsibilities/ Awards	Current Position
M.S. in Oral Sciences	Fuwad Al-Sabek	Thesis Advisor, 2000-03; International Federation of Endodontists Research Award	Private Practice
M.S. in Oral Sciences	Troy Thomson	Thesis Advisor, 2000-03; AAE Research Award	Private Practice
D.D.S. Thesis	Rahul Renjen	Summer Research Advisor, 2000; NIDCR Summer Research Fellowship	Private Practice
Post-Doctoral Fellow	Xinsheng Zhu	Major Advisor; 2001-03	Private Practice
D.D.S. Thesis	Brian Rheude	Summer Research Advisor, 2001; NIDCR	Private Practice

		Summer Research Fellowship	
Visiting Professor	Young Joon Kim	Major Advisor; 2001-03, 2005	Professor of Periodontics, Kwang-Ju, Korea
D.D.S./Ph.D. candidate	Chetan Patil	Major Advisor; 2002-present; NIDCR Training Fellowship	Private Practice
Research Fellow	Kim Agnello	Advisor; 2003	Associate Professor of Veterinary Medicine, University of Pennsylvania
D.D.S. Thesis	Katy Ehman	Summer Research Advisor, 2001-03; NIDCR Summer Research Fellowship; 3 rd Place ADA Table Clinics, 2003	Private Practice
Research Fellow	Vin Dasda	Research Advisor, 2003	Associate Professor of Orthopedics, Louisiana State University, New Orleans, LA

University of Michigan (2003-2008)

Type of Student	Name	Project Responsibilities/ Awards	Current Position
Visiting Professor	Carlos Rossa	Major Advisor; 2003-2005; 3 rd Place UM Dental Research Day, 2004	Professor of Periodontics and Graduate Director, Araraquara, SP, Brazil
Post-Doctoral Associate	Wenpu Zhao	Major Advisor; 2004-2008	Research Associate, NIAID/NIH, Bethesda, MD
Post-Doctoral Associate	Ken Longo	Major Advisor, 2004	Vice President, Discovery Data Science at Wave Life Sciences, Cambridge, MA
M.S. Thesis Advisor	Jill Rogers	Major Advisor, 2004-present; AAP 1 st Place Balint Orban Competition, 2006 Volpe Research Award, 2007	Private practice in periodontics, Chicago Part-time clinical faculty, UIC
D.D.S. Thesis	Keyna Peterson	Summer Research Advisor, 2005 AADR Student Fellowship, 2005	Private Practice
Undergraduate Research	Philip Watkins	Research Advisor, 2005	Private Practice
Undergraduate Research Biomedical Engineering Thesis	Derek Coatney	Research Advisor, 2005-07	Senior Product Manager - Shopping at Google, Pittsburgh, PA
D.D.S. Thesis	Shawn Kinser	Summer Research Advisor, 2005-present; NIDCR Summer Research Fellowship	Private Practice

Undergraduate Research	Jodie Othemba	Project advisor, 2006-2007	Private Practice
M.S. Thesis Advisor	Suncica Travan	Major Advisor, 2006-2008	Clinical Assistant Professor, U of Michigan
Ph.D. Oral Sciences Advisor	Elizabeth VanTubergen, DDS, PhD	Co-Mentor, 2007-2010	Clinical Associate Professor, Cariology, Restorative Sciences, and Endodontics, U of Michigan

Medical University of South Carolina (2008-2017)

Type of Student	Name	Project Responsibilities/ Awards	Current Position
Post-Doctoral Scholar	Hong Yu, MD	Major Advisor, 2008-2010	Research Associate Professor Dept. of Oral Health Sciences
Post-Doctoral Scholar	Qyian Li, DDS, PhD	Major Advisor, 2008-2011	Professor, China
Visiting Scholar	Rafael Sartori, DDS, MS	Major Advisor, 2007-2008	Research Associate and Private Practice, Brazil
Undergrad Minority Scholar	Sabrina Porcher	Major Advisor, summer 2008	Private Practice, Nashville, TN
DMD/PhD candidate	Alfred Griffin, III	Major Advisor, 2008-2014; NIDCR F30; ASBMR Young Investigator Award	CEO, Co-Founder, LightForce Orthodontics, Lecturer, Dept of Developmental Biology Harvard School of Dental Medicine
MD/PhD candidate	Tina Zhang	Major Advisor, 2008-2013; NCI F30 award	Assistant Professor, Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Indiana University School of Medicine
Visiting Scholar	Morgana Guimares	Major Advisor: 2009	Research Associate, Departamento de Diagnóstico e Cirurgia (Araraquara), São Paulo State University São Paulo, Brazil
MS candidate, Microbiology and Immunology	Joni Dunmyer Nelson	Major Advisor, 2009-2011	Associate Professor, Dept of Stomatology, College of Dental Medicine, MUSC
MSD candidate in periodontics, College of Dental Medicine	Mary Gray, DDS	Major Advisor, 2010-2012	Private Practice, Baltimore, MD
MSD candidate in endodontics, College of Dental Medicine	Justin McAbee, DMD	Major Advisor, 2010-2012; AAE Research Award	Private Practice, Greenville, SC

Post-Doctoral Fellow	Michael Valerio, PhD	Major Advisor, 2011-2014; AADR Hatton Award winner, 2013	Research Physiologist at DoD-VA Extremity Trauma and Amputation Center of Excellence at WRNMMC
DMD/PhD candidate	Bethany Herbert	Major Advisor, 2011-2018; AADR Student Research Fellowship Award; NIDCR F30 Award; AADR Hatton Award Finalist (2015)	Private Practice, Charleston, SC
Post-Doctoral Scholar	Erika Robles Machado, DDS	Major Advisor, 2012-2013	Research Associate, Brazil
MSD candidate in periodontics, College of Dental Medicine	Jeff Barzyk, DDS	Major Advisor, 2012-2015	Private Practice, Jacksonville, FL
Post-Doctoral Fellow	Heidi Steinkamp, DDS, PhD	2013-2016; AADR Hatton Award winner, 2014	Assistant Professor, Pediatric Dentistry, University of Iowa
Post-Doctoral Fellow	Chad Novince, DDS, PhD	Major Advisor 2014-15; NIDCR K08 Award	Associate Professor, MUSC, Oral Health Sciences
MSD candidate in periodontics, College of Dental Medicine	Michael Nguyen, DDS	Major Advisor, 2015-2017	Private Practice, Houston, TX
MSD candidate in periodontics, College of Dental Medicine	Trenton Jensen, DDS	Major Advisor, 2015-2017	Private Practice, Greenville, SC
DMD/PhD candidate	Joy Kirkpatrick	Co-Advisor, 2016-present; NIDCR F30 Award	In training

University at Buffalo (2017-present)

Type of Student	Name	Project Responsibilities/ Awards	Current Position
MA Candidate, Biological Sciences	Yuxiang Pan	Major Advisor, 2018-2019	Dental Student, Stony Brook
Visiting Fellow	Fayu Liu, DDS, PhD	Major Advisor, 2018-2019	Professor, Department of Oral & Maxillofacial Surgery, Head & Neck Surgery, School of Stomatology, China Medical University Shenyang. Liaoning, China
Visiting Fellow	Zhenning Li, DDS, PhD	Major Advisor, 2019-2020	Associate Professor, Department of Oral & Maxillofacial Surgery, Head & Neck Surgery, School of Stomatology, China Medical University Shenyang. Liaoning, China

Visiting Fellow	Peng Li, DDS, MD, PhD	Major Advisor, 2019	Professor, Affiliated Cancer Hospital of Zhengzhou University, China
Postdoctoral Fellow	Kyuhwan Kwack, DVM, DDS, PhD	Major Advisor, 2019-2022	Assistant Professor, Department of Oral Microbiology, College of Dentistry, Kyung Hee University, Seoul, Republic of Korea
MD/PhD Candidate	Jiho Sohn, MS	Major Advisor, 2019	Residency in Internal Medicine, UT Southwestern
Undergraduate student	Kylie Mullaney	Major Advisor, 2019	DDS Student, U of Minnesota
MS in Oral Sciences Graduate Student	Cameron Kirkwood	Major Advisor, 2020	DC student, D'Youville University
Dental Student	Victoria Maglaras	Major Advisor, 2020	Periodontics/PhD in Oral Health Sciences trainee, University of Michigan
K12 Scholar (Periodontics/PhD in Oral Biology candidate)	Omar Glover, DDS	Major Advisor, 2021	In training
Postdoctoral Fellow	Talita Pollyanna Moreira Dos Santos, DDS, MS, PhD	Major Advisor, 2022-24	Postdoctoral Fellow, Oral Biology, UB
Undergraduate Student	Zahraa Alabbasi	Major Advisor, 2022	MA, Biological Sciences
Dental Student	Nicholas Nemeth	Major Advisor, 2022-23	Periodontics Residency, SUNY at Stony Brook
Visiting Professor	Mila Fernandes Moreira Madeira, DDS, MS, PhD	Major Advisor, 2023-24	Associate Professor, Brazil
Visiting Professor	Kamila Wiśniewska, DDS, PhD	Major Professor, 2024	Assistant Professor, Poland
Fulbright Scholar (PhD candidate from Egypt)	Nehad Monier, DDS	Major Advisor, US 2024-present	In training
Postdoctoral Fellow	Leticia Andrea Rojas Cortez, DDS, PhD	Major Professor, 2024-present	In training
MS in Oral Sciences Graduate Student	Jade Green	Major Advisor, 2024-present	In training
Dental Student	Jessica Vilas-Boas	Major Advisor, 2024-present	DDS, Class of 2025
Dental Student	Julianna Castle	Major Advisor, 2024-present	DDS, Class of 2027
Dental Student	Jessica Yu	Major Advisor, 2024-present	DDS, Class of 2028
Postdoctoral Fellow	Abhishiktha Godthi, PhD	Major Professor, 2025-present	In training
Undergraduate Student	Reegan Mullaney	Major Advisor, 2025	Undergraduate BS, Biology, Siena College
Visiting Research Scholar	Camyla Rodrigues Nascimento, DDS, MS	Scholar Advisor	In training, São Paulo State University (UNESP), School of

			Dentistry, Araraquara, SP
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C. Special instructional materials (handbooks, laboratory manuals, videotapes, etc.)

Surgical digital videotape for sub-epithelial connective tissue graft lecture to dental students (2003)—used in power point lectures

Courses attended for teaching:

School of Dentistry Faculty Retreat – Enhancing the Mentoring Culture at the School of Dentistry
Marylyn Lantz, 12/12/05

Using Active and Cooperative Learning in Large Classes

Karl Smith

1/31/06 Center for Research on Learning and Teaching (CRLT)

Authority and Credibility in the Classroom

Anne Harrington

2/2/06 Center for Research on Learning and Teaching (CRLT)

Continuing Education Courses Taught:

Dental Implications of the 40 Most Commonly Prescribed Medications, University at Buffalo School of Dental Medicine, October 2001

Impact of Herbal Therapies on Dental Practice, University at Buffalo School of Dental Medicine, November 2001

Clinical Management of Oral & Maxillofacial Infections: Update on Antibiotics and Treatment of Orofacial Infections, University at Buffalo School of Dental Medicine, December 2002

Dental Implications of the 40 Most Commonly Prescribed Medications, 24th Annual Chautauqua Dental Congress, June 2003

Impact of Herbal Therapies on Dental Practice, Erie County Dental Society, November 2003

Systemic Periodontal Chemotherapy as part of 21st Century Periodontics, April 28, 2006, Department of Periodontics and Oral Medicine, University of Michigan.

Present and Future Perspectives of Periodontal Host Modulation, San Paulo, Brazil, May 12, 2006

Esthetic Periodontal Plastic Surgery: Present and Future Perspectives, Kuwait City, Kuwait, January 15, 2007

Impact of Obesity in Dentistry, Buffalo, NY, April 11, 2018

Invited Presentations (Research Seminars, Lectures at Other Institutions):

October 1998; New York Academy of Sciences Meeting Inhibition of Matrix metalloproteinases; Therapeutic Applications invited oral presentation entitled, “Non-Antimicrobial and Antimicrobial Tetracyclines Inhibit IL-6 Expression in Murine Osteoblasts,” Tampa, Florida.

July 1999; Gordon Research Conference, Non-Antibiotic Properties of Tetracyclines & Other Antibiotics invited oral presentation entitled, “Gene Regulation by Chemically Modified Tetracyclines in Murine Osteoblasts,” Andover, New Hampshire.

October 1999; The Ohio State University College of Dentistry, “Inhibition of IL-6 Expression in Osteoblasts by Chemically Modified Tetracyclines”, Columbus, Ohio

May 2003; Roswell Park Cancer Center, Department of Molecular and Cellular Biology, “The Role of p38 MAP Kinase in IL-6 Gene Regulation”, Buffalo, NY

May 2006; Regulation of Gene Expression in Inflammation, State University of Sao Paulo (UNESP), Araraquara, SP, Brazil

June 2006; Gordon Research Conference, Periodontal Diseases. Invited oral presentation entitled "MAPK signaling mechanisms governing inflammatory cytokine expression". Il Ciocco, Italy

January 2007; Kuwait Dental Association Annual Meeting. Invited oral presentation entitled "Esthetic Periodontal Plastic Surgery: Present and Future Perspectives", Kuwait City, Kuwait

February 2007: State University of New York at Buffalo. Invited seminar, Signaling Mechanisms Governing Cytokine mRNA Stability: Implications in Inflammatory Bone Loss and Oral Cancer, Buffalo, NY

March 2007; IADR/AADR meeting, Lunch and Learning. "Therapeutic Strategies to Disrupt Cell Signaling in Periodontal Inflammation", New Orleans, LA

October 2007; University of Western Ontario, "Signaling Mechanisms in Cytokine mRNA Stability: Impact in Inflammatory Bone Loss", London, ON

May 2008; Colgate Palmolive "Novel Strategies to Harness Periodontal Inflammation", Piscataway, NJ

December 2008: NIDCR Intramural Research Seminar Series "Innate Immune Signaling through p38 MAPK/MKP-1 Pathways: Implications in Periodontal Diseases and Oral Cancer", Bethesda, MD

March 2009; Medical University of South Carolina "Systemic Periodontal Chemotherapy", Charleston, SC

July 2009; Harvard School of Dental Medicine "Innate Immune Signaling through p38 MAPK/MKP-1 Pathways: Implications in Periodontal Diseases and Inflammatory Bone Loss", Boston, MA

October 2009; University of Louisville, Innate Immune Signaling through p38 MAPK/MKP-1 Pathways: Implications in Inflammatory Bone Loss", Louisville, KY

January 2010; University of Medicine and Dentistry, New Jersey; "Periodontal Inflammation and mRNA Stability—Implications for Therapeutic Strategies", Newark, NJ

March 2010; Kaohsiung Medical University, College of Dental Medicine, Research Day-International Symposium on Oral Cancers, Systemic Diseases, and Bone. "Innate Immune Signaling through p38 MAPK/MKP-1 Pathways in Inflammatory Bone Loss", Kaohsiung, Taiwan.

March 2010; Kaohsiung Medical University, College of Dental Medicine, Research Day-International Symposium on Oral Cancers, Systemic Diseases, and Bone. "Potential Role of mRNA Binding Proteins in Oral Cancer Progression", Kaohsiung, Taiwan.

May 2010; Virginia Commonwealth University. "Post Transcriptional Control of Periodontal Diseases and Oral Cancer Progression", Richmond, VA

June 2010, University of Alabama at Birmingham; "Innate Immune Signaling through p38 MAPK/MKP-1 Pathways: Implications in Periodontal Diseases and Inflammatory Bone Loss", Birmingham, AL

June 2011, Clemson University, "Defining Novel Therapeutic Targets in Periodontal Diseases", Clemson, SC

July 2011, Gordon Research Conference on Periodontal Diseases, invited oral presentation, "MAPK Signaling Mechanisms in Osteoclast-directed Alveolar Bone Loss", Davidson College, Davidson, NC

November 2011, South Carolina College of Pharmacy, Department of Pharmaceutical and Biomedical Sciences, invited seminar, "MAPK Signaling and RNA Stability in Osteoimmunology: Therapeutic Targets in Inflammatory Bone Loss", Charleston, SC

March 2012, Baylor College of Dentistry, Department of Biological Sciences, invited seminar, "Mechanistic Basis for Translational Studies in the Management of Periodontal Diseases", Dallas, TX

June 2013, UPenn Periodontal Conference 2013, invited symposium presenter "Immune Signaling through MAPK/MKP-1 Pathways: Implications in Periodontal Diseases and Inflammatory Bone Loss", Philadelphia, PA

October 2013, MUSC Dept. of Craniofacial Biology Seminar Series, "MKP-1 Signaling Nexus in Bone: Dual Roles in Pathology and Homeostasis", Charleston, SC

June 2014, IADR Periodontal Research Group symposium titled "Molecular Basis of Periodontal Tissue Homeostasis, Destruction and Regeneration". Invited presentation entitled "Control of MAPK Signaling in Alveolar Bone Osteoimmunology, Cape Town, South Africa

- September 2014. Invited lecture “p38 MAPK/DUSP1 Axis in Stromal-mediated Tumorigenesis” Life Sciences Baltics MAP Kinases Conference, Vilnius, Lithuania
- February 2015. 14th Annual Mark Wilson Oral Microbiology Immunology Meeting. San Juan, Puerto Rico. Invited oral presentation. “DUSP1 phosphatase regulates the proinflammatory milieu in oral cancer”.
- February 2015. Lectures “Fostering Collaborative Research and Training the Next Generation of Faculty in US Dental Schools”; “Ethics and Professionalism in Dentistry”; and “Development of an Evidence-Based Dentistry Curriculum”. 7th Dental Students’ Scientific Meeting. Qassim University, College of Dentistry Gassim, Saudi Arabia
- March 2015, Invited Seminar “Understanding Innate Immune Signaling in Periodontitis”, New York University, New York
- June 2015, Invited Presentation “Local Innate Immune Signaling in Osteoclastogenesis” PennPerio Conference, Philadelphia, PA
- January 2016 Invited Seminar “Therapeutic Opportunities to Control Osteoclastogenesis in Periodontitis”, Baylor Texas A&M University Baylor College of Dentistry, Dallas, TX
- February 2016 15th Annual Mark Wilson Oral Microbiology Immunology Meeting. St. Croix, US Virgin Islands. Invited oral presentation. “Sex-based Differential Regulation of Bacterial-induced Bone Resorption”
- September 2016, Invited Seminar, MUSC College of Dental Medicine Seminar Series, Charleston, SC “The Quest for Small Molecule Inhibitors of Signal Transduction to Control Osteoclastogenesis in Periodontitis”
- October 2016, Invited Lecture University of Louisville School of Dentistry, Louisville, KY “Therapeutic Opportunities to Control Osteoclastogenesis in Periodontitis”
- October 2016, Invited Lecture, Oregon Health & Science University School of Dentistry, Portland, OR “The Quest for Small Molecule Inhibitors of Signal Transduction to Control Osteoclastogenesis in Periodontitis”
- November 2016, Invited Lecture, Chinese National Oral Biomedical Conference, “Therapeutic Opportunities to Control Osteoclastogenesis in Periodontitis”, Dalian, China
- May 2017, Invited Keynote Lecture, The 60th Spring Meeting of the Japanese Society of Periodontology. “MAPK Signaling and RNA Stability in Osteoimmunology: Therapeutic Targets for Periodontitis Control”, Fukuoka, Japan
- May 2017, Invited Lecture, Tokyo Medical and Dental University “Post Transcriptional Control of Alveolar Bone Homeostasis”, Tokyo, Japan
- June 2017, Invited Lecture, PennPerio conference, “Post Transcriptional Control of Alveolar Bone Homeostasis”, University of Pennsylvania, Philadelphia, PA
- August 2017 Invited Lecture, “Post Transcriptional Control of Alveolar Bone Homeostasis”, New York University, New York, NY
- October 2017, Invited Lecture, “Post Transcriptional Regulation of Oral Immunity and the Microbiome”, UB’s Community of Excellence in Genome, Environment and Microbiome (GEM).
- December 2017, Invited Lecture, “DUSP1 and Tumor-Associated Macrophage Plasticity in Oral Cancer”, Roswell Park Comprehensive Cancer Center, Tumor Immunology Lecture Series, Buffalo, NY
- June 2019, Invited Lecture, PennPerio conference, “Myeloid-derived Suppressor Cells in Periodontal Osteoimmunology”, University of Pennsylvania, Philadelphia, PA
- August 2019, Invited Lecture, First Bernhard Gottlieb Conference: Periodontal Homeostasis in Disease and Regeneration, “Myeloid-derived Suppressor Cells and Alveolar Bone Homeostasis”, Texas A&M University, College of Dentistry, Dallas, Texas
- October 2019, Invited Lecture, Newark, NJ Rutgers University, “MDSCs: new players in alveolar bone homeostasis”, Rutgers University, School of Dental Medicine
- November 2019, Invited Lecture, Los Angeles, CA UCLA “p38 MAPK/MKP-1 Signaling Axis in Oral Cancer”, UCLA School of Dentistry.

September 2020, Invited Webinar, "Metabolic Reprogramming of Tumor-associated Macrophages in Oral Cancer", Upstate NY Virtual Genomics Symposium, Illumina Genomics Symposium.

November 2020, Invited Seminar, "Metabolic Reprogramming of Tumor-associated Macrophages in Oral Cancer"; Department of Oral Biology, University at Buffalo, Buffalo, NY

January 2021, Invited Seminar, "The p38/MKP-1 Signaling Axis in Oral Cancer: Impact of Tumor associated Macrophages", University of Arizona, Tucson, AZ

July 2021, Invited Lecture, "Myeloid-derived Suppressor Cells in Obesity-associated Periodontal Disease", University of Pennsylvania, Philadelphia, PA

September 2021, "Periodontal disease increases oral-gut transmission of colitogenic *Haemophilus parainfluenzae* in inflammatory bowel disease patients". Invited Presentation, 2nd International Conference on Oral Mucosal Immunity and Microbiome, Kos, Greece

November 2021, "The p38/MKP-1 Signaling Axis in Oral Cancer: Impact of Tumor-associated Macrophages". Invited Seminar, UB Cancer Research Consortium Seminar Series, Buffalo, NY

February 2022, Invited Lecture, "Mechanisms controlling myeloid cell subset mobilization and osteoclast potential". 21st Annual Mark Wilson Conference, 32nd Annual Meeting of the Oral Immunology/Microbiology Research Group, Rio Mar, Puerto Rico

March 2022, Invited symposium presentation, "Sexual Dimorphism in Oral Inflammatory Diseases". AADOCR Annual Meeting, Atlanta, GA

October 2022, Invited seminar, "Post-Transcriptional Control of Aging-Associated Inflammation and Skeletal Homeostasis", University at Buffalo, School of Engineering, Buffalo, NY

February 2023, Invited Seminar, "Tristetraprolin: the fountain of youth for bone homeostasis?", 2023 Mark Wilson Conference, Casa de Campo, La Romana, Dominican Republic

March 2023, Invited symposium presentation, "Aging and Oral Cancer", 2023 AADOCR Meeting within a Meeting, Aging and Oral Health Research, Portland, OR

July 2023, Invited Presentation, "Age-related metabolic dysregulation of monocytic MDSCs in osteoclastogenesis", PennPerio Meeting, Philadelphia, PA

September 2023, Invited Presentation, "Metabolic Reprogramming of Myeloid-derived Suppressor Cells in Periodontitis", 3rd International Conference on Oral Mucosal Immunity and Microbiome, Heraklion, Crete, Greece

October 2023, Invited Seminar, "Post-Transcriptional Control of Aging-Associated Inflammation and Skeletal Homeostasis", Harvard University, Boston, MA

June 2024, Invited Seminar, "New Mechanistic Insights Engaged in Obesity-associated Periodontitis", International Academy of Periodontology Research Conference (IAPRC), Harvard University, Boston, MA

June 2024, Invited Seminar, "The p38/MKP-1 Signaling Axis in Oral Cancer: Opportunities to Target Tumor-associated Macrophages", Boston University, Boston, MA

February 2025, Invited Presentation, "Immunoaging Myeloid Cell Dysfunction in Periodontal Disease", Mark Wilson Meeting, El Conquistador Resort, Fajardo, Puerto Rico

RESEARCH SUPPORT

A. Past (Total Direct Costs)

NIH/NIDCR F32DE005697	9/1/1996-8/30/1998
Estrogen Regulation of the Osteoblast InsP ₃ Receptor	\$78,000
Role: Awarded NRSA Fellow	
Moir P. Tanner Research Fund	1/1999-1/2000
Inhibition of IL-6 Expression in Osteoblasts by Chemically Modified Tetracyclines	\$10,000
Role: PI	
CollaGenex Pharmaceuticals	4/1999-4/2000

Analysis of Novel CMT Therapeutic Targets through Gene Arrays	\$22,500
Role: PI	
American Academy of Implant Dentistry Foundation	12/1999-1/2001
In Vitro Effects of DGEA Peptide and BMP-7 on Bone Formation	\$10,000
Role: PI	
The Osseointegration Foundation	1/2000-12/2001
The Effects of Titanium-Immobilized Bioactive Peptides on Osteoblast Differentiation	\$10,000
Role: PI	
International Federation of Endodontists	4/2001-12/2001
In Vitro Biomineralization of Cementoblasts on Mineral Trioxide Aggregate	\$1,000
Role: PI	
American Academy of Endodontists	4/1/2001-12/1/2001
Development of In Vitro Systems to Evaluate Endodontic Materials	\$8,700
Role: PI	
Institute on Research in Women and Gender Grant	7/1/2001-6/30/2002
Evaluation of the Molecular Events Underlying the Enhancement of Osteoblast Activity by Immobilized BMP-7 Derived Bioactive Peptides	\$2,000
Role: PI	
Interdisciplinary Research & Creative Activities Fund	3/1/2003-2/28/2004
University at Buffalo	\$45,000
Insulin Gene Delivery with Tissue Engineered Skin Equivalents: Development of a Tissue-Based Device for the Treatment of Type-II Diabetes	
Role: PI	
University of Michigan, Office of the Vice President for Research	8/01/2004-1/31/2005
Proteomic Analysis of Signaling Intermediates Mediating IL-6 mRNA Stability in Osteoblasts	\$10,000
Role: PI	
NIH/NIDCR1 R03 DE14460	8/01/2002 -7/31/2005
The Role of p38 MAP Kinase in IL-6 Gene Regulation	\$100,000
Role: PI	
NIH/NIAMS P30AR46024	6/01/2004-5/31/2005
University of Michigan Musculoskeletal Research Core Center Pilot Grant Program	\$22,000
Functional Genetic Screening to Identify Genes Mediating IL-6 Turnover in Osteoblasts	
Role: PI of Subaward	
Scios Pharmaceuticals, Inc.	11/01/2004-10/31/2006
p38 Inhibitors for the Treatment of Periodontitis	\$58,028
Role: PI	

NIH/NIDDK 1 R01DK068673 Regulated Insulin Delivery from Tissue Engineered Skin Role: PI	8/01/2004-6/20/2006 \$125,000
NIH/NCI 5-P50-CA097248 The Molecular Basis of Head and Neck Cancer Therapy Role of RANKL in Squamous Cell Carcinoma Invasion into Bone Role: PI of Subaward	Wolf (PI) 7/01/2004-6/30/2006 \$45,000
Pfizer, Inc. Essential Oils as Anti-inflammatory Agents Role: PI	12/20/2005-12/31/2007 \$58,546
W81XWH-05-0075 Department of Defense Identification of RNA Binding Proteins that Affect IL-6 mRNA Stability: Development of Novel Targets for Management of Inflammatory Bone Diseases Role: PI	11/01/2004-9/30/2008 \$723,982
NIH/NIDCR R21DE017966 Altering Cytokine mRNA Stability in Periodontal Bone Loss Role: PI	07/01/2007-6/30/2010 \$275,000
IADR Innovation in Health Care Award Glaxo Smith Kline Targeting Post Transcriptional Signaling for Periodontitis Role: PI	04/01/2008-3/31/2010 \$75,000
NIH/NIDCR R21DE019272 Silencing Post Transcriptional Signaling Mechanisms in Periodontal Inflammation Role: PI	9/01/2008-8/31/2010 \$275,000
R01DE018290-04S2 Negative Regulation of Innate Immune Responses through MAPK Phosphatases (ARRA Administrative Supplement) Role: PI	09/22/2009 – 08/31/2010 \$99,675
NIH/NIDCR T32DE017551 MUSC Dental Research Training Grant Role: PI	07/01/2006-6/30/2011 \$1,750,954
NIH/NCRR 3P20RR017696-08S10 SC COBRE for Oral Health Research (ARRA Administrative Supplement to Advance Translational T1 & T2 Research) Role: PI	8/26/2009 – 08/25/2011 \$651,170
NIH/NCRR 2P20 RR017696 South Carolina COBRE for Oral Health Research Role: PI	8/01/2007-9/412/2012 \$7,854,270

NIH/NCRR 3P20RR01769608S2 SC COBRE for Oral Health Research ARRA Administrative Supplement for Research Workforce Development and Dissemination Role: PI		09/09/2009-09/08/2012 \$587,298
NIH/NIDCR 1R01DE018290 Negative Regulation of Innate Immune Responses through MAPK Phosphatases Role: PI		02/01/2007-01/31/2013 \$1,150,000
OP-P-5266-M OraPharma Multi-Center Phase 3 Trial of Minocycline HCl 1mg Microsphere for Use in Subjects with Peri- Implantitis: Clinical and Microbiological Evaluations. Research Role: PI		03/15/12 – 06/01/2014 \$61,412
NIH/NIDCR R03DE021775-01 Statistical Models for Multiplex immunoassay data in oral health research Role: Co-I	Hill (PI)	7/01/2012-11/30/2014 \$200,000
NIH/NIDCR R01DE016353-06 The Effect of Statin on Diabetes-Associated Periodontal Disease Role: Co-I	Huang (PI)	07/20/2010-04/30/2015 \$1,000,000
GlaxoSmithKline IADR Innovation in Oral Care Award Novel Anti-Inflammatory Nanoparticle Scaffolds For Periodontal Treatment Role: PI		07/01/2014-6/30/2015 \$75,000
F30 CA165518 NIH/NCI The Role of Mitogen-Activated Protein Kinase Phosphatase-1 in Tumor Progression Role: Mentor	Zhang (PI)	08/06/12-08/05/16 \$52,456
NIH/NIGMS P30GM103331 MUSC Center for Oral Health Research Role: PI		9/5/2012-5/31/2017 \$3,750,000
NIH/NIDCR T32DE017551-11 T-COHR: Training in Craniofacial and Oral Health Research Role: PI (transferred to M. Kern)		7/01/2016-6/30/2021 \$2,800,000
NIH/NIDCR 1R01DE021423 Post-Transcriptional Regulation of Periodontal Diseases Role: PI		7/01/2011-6/30/2017 \$1,250,000
NIH/NIDCR 1R25DE022677-01 T-COHR: Summer Undergraduate Research Program Role: PI		05/01/2012-4/30/2017 \$243,905
NIH/NIDCR 5K99DE023123 Role: PI	Vanden Berg-Foels (PI)	09/01/2012-8/30/2015

Mandibular Cartilage Regeneration in Situ by Endogenous Stem Cell Recruitment Role: Mentor	\$87,993
Dexcel Pharma Technologies The Efficacy and Safety of Chlorhexidine Gluconate Chip (PerioChip) in Therapy of Peri-implantitis Role: PI	09/07/2016-9/30/2017 \$214,269
K08 DE025337 NIH/NIDCR Impact of the Microbiome on Osteoimmunology and Skeletal Development Role: Mentor (changed in 6/2017)	Novince (PI) 04/01/2016-03/31/2021 \$135,864
F30 DE024368 NIH/NIDCR The Role of MAPK-Activated Protein Kinase 2 in Periodontal Disease Role: Mentor	Herbert (PI) 09/01/2015-05/31/2017 \$49,376
5R21DE02701702 (Kirkwood) NIH/NIDCR DUSP1 and Sexual Dimorphism in Periodontitis Role: PI	7/01/18-7/31/20 \$438,625
W81XWH-18-1-014 (Kirkwood) DoD Metabolic Reprogramming of Myeloid-derived Suppressor Cells in Post-Traumatic Osteoarthritis Role: PI	05/01/18-10/31/20 \$319,000
N/A (Kirkwood) James H. Cummings Foundation IVIS Lumina LT Optical Imaging Platform	03/01/2020-2/28/2021 \$118,575
Sunstar Group (Genco/Zambon) 11363-1-76633 Sunstar Buffalo Microbiome Center Role: Co-I	11/1/15-12/31/2021 \$830,000
K18 DE029526-01 (Kirkwood) NIH/NIDCR K18 Bioinformatic Approaches for Understanding Macrophage Plasticity and Microbiome in Oral Diseases Role: PI	4/01/2020-3/31/2022 \$94,393
University of Arizona (MPI) Suramin for Radiation-Induced Oral Mucositis Role: Subcontract PI	07/01/2020-12/31/2021 \$35,000
5R01DE02825803-S1(Kirkwood) NIH/NIDCR Post-Transcriptional Control of Aging-Associated Inflammation and Bone Homeostasis Role: PI	06/01/2020-05/31/2022 \$258,617
1R01 DE027070-01A1 (Huang)	04/01/18-3/31/2023

Medical University of South Carolina (NIH/NIDCR prime) Acid Sphingomyelinase as a Target in Metabolic Syndrome-Exacerbated Periodontitis Role: Co-I	\$47,964
1R34DE033592-01 (Orbach/Kirkwood MPI) NIH/NIDCR Traumatic Events and Injury: Etiologic Mechanisms for Temporomandibular Disorders Role: MPI	09/15/2023-03/31/2025 \$339,268
5R01DE02825803 (Kirkwood) NIH/NIDCR Post-Transcriptional Control of Aging-Associated Inflammation and Bone Homeostasis Role: PI	09/07/18-05/31/2025 \$1,993,750
R01 DE02883-01A1 (Diamond) University of Louisville, NIH/NIDCR Topical Vitamin D and Periodontal Disease Role: Subcontract PI	6/01/2021-8/31/2025 \$365,524
CA200341 (Kirkwood) DoD Peer Reviewed Cancer Research Program Tumor-associated Macrophage Reprogramming to Improve Oral Cancer Therapeutic Efficacy Role: PI	04/01/2021-12/31/2025 \$1,168,991

B. Current Active (Total Costs)

1 R01 DE032310 (Kirkwood) Immunometabolic Regulation of MDSCs in Periodontitis Role: PI	9/01/2022-08/31/2027 \$3,188,171
1K12 DE027827 (Kirkwood) NIH/NIDCR Buffalo Oral-Research and Specialty Training Program (BORST) Role: PI	09/01/2018-8/31/2028 \$1,459,134
1 C06 OD037771 (Kirkwood) UB Microbiome Center Gnotobiotic Animal Research Facility Role: PI	09/15/2024-05/31/2029 \$7,385,819

C. Pending (Total Costs)

R01 2R01DE028883-06 (Diamond) University of Louisville, NIH/NIDCR Topical Vitamin D and Periodontal Disease Role: Subcontract PI	6/01/2021-6/30/2031 \$977,217
1R21DE036324-01 NIH/NIDCR Investigating the Impact of Biological Sex on the Pathophysiology of Radiation-Induced Oral Mucositis Role: PI	7/1/2026-6/30/2028 \$440,275

PATENTS

AURANOFIN NANOPARTICLES AND METHODS OF TREATMENT OF PERI-IMPLANTITIS AND PERIODONTAL DISEASE. Filed: May 11, 2016 (U.S. Application No. 62/334,69)

BIBLIOGRAPHY:

A. Peer-Reviewed Articles (listed in reverse chronological order):

1. Thiyagarajan R, Zhang L, Rojas Cortez LA, Kwack KH, Maglaras V, Yellapu NK, Arao Y, Seldeen KL, Blackshear PJ, Troen BR, Kirkwood KL. Increased Stability of Tristetraprolin mRNA Supports Bone Health and Decreases Frailty During Aging. *Aging Dis.* 2026 Jan 13. doi:10.14336/AD.2025.1243. Epub ahead of print. PMID: 41619274.
2. Kirkwood CL, Zhang L, Kirkwood KL. Exploring the Influence of Sex on the Development of Radiation-Induced Oral Mucositis. *Adv Dent Res.* 2026 Jan;33(1):9-12. doi: 10.1177/00220345251392081. Epub 2025 Dec 19. PMID:41417483.
3. Neubert JK, Allen K, Alliston T, Almarza AJ, Athanasiou KA, Donertas-Ayaz B, de Paula BB, Bavarian R, Bhutani N, Cairns BE, Caudle RM, Chai Y, Chen JF, Chen Y, Clark GT, Cruz-Almeida Y, DaSilva AF, Durham PL, Estela AV, Embree M, Fillingim R, Guastaldi F, Handa S, Kapila SD, Keith D, Kirkwood KL, Kramer P, Martucci KT, Murphy NP, Nackley AG, Ohrbach R, Sagl B, Smith SB, Tao F, Winkelstein B, Yao H, Young S, Gold MS. Preclinical perspectives on disorders of the temporomandibular joint: Tracing the past, navigating the present, and shaping the future. *J Pain.* 2025 Nov;36:105560. doi: 10.1016/j.jpain.2025.105560. Epub 2025 Sep 13. PMID: 40953762.
4. Li L, Hayashi-Okada Y, Falkner KL, Shimizu Y, Zambon JJ, Kirkwood KL, Schifferle RE, Genco RJ, Diaz PI. Effect of an intensive antiplaque regimen on microbiome outcomes after nonsurgical periodontal therapy. *J Periodontol.* 2025 Mar;96(3):241-254. doi: 10.1002/JPER.24-0141. Epub 2025 Feb 10. PMID: 39925335.
5. Santos TPMD, Hicks WL Jr, Magner WJ, Al Afif A, Kirkwood KL. Metabolic and Aging Influence on Anticancer Immunity in Oral Cancer. *J Dent Res.* 2024 Sep;103(10):953-961. doi: 10.1177/00220345241264728. Epub 2024 Aug 26.
6. Thiyagarajan R, Zhang L, Glover OD, Kwack KH, Ahmed S, Murray E, Yellapu NK, Bard J, Seldeen KL, Rosario SR, Troen BR, Kirkwood KL. Age-related increase of CD38 directs osteoclastogenic potential of monocytic myeloid-derived suppressor cells through mitochondrial dysfunction in male mice. *Aging Cell.* 2024 Aug 23:e14298. doi: 10.1111/accel.14298. Epub ahead of print. PMID: 39180173.
7. Kirkwood KL, Van Dyke TE, Kirkwood CL, Zhang L, Panezai J, Duran-Pinedo AE, Figgins EL, Ryan LK, Frias-Lopez JJ, Diamond G. Topical Vitamin D Prevents Bone Loss and Inflammation in a Mouse Model. *J Dent Res.* 2024 Aug 5:220345241259417. doi: 10.1177/00220345241259417. Epub ahead of print. PMID: 39104028.
8. Liu FY, Kirkwood KL, Feng Z. Editorial: Early and accurate diagnosis and regulatory mechanism of lymph node metastasis in head and neck carcinoma. *Front Oncol.* 2024 Apr 9;14:1389158. doi: 10.3389/fonc.2024.1389158. PMID: 38655142; PMCID: PMC11037079.
9. Kwack KH, Zhang L, Kirkwood KL. In vitro osteoclastogenesis assessment using

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B. Articles Submitted for Publication/Under Review:

Inflammatory Osteoimmune Dysregulation Mediates Microbiota-dependent Bone Loss in Tristetraprolin-deficient Mice Kyu Hwan Kwack, Jiho Sohn, Lixia Zhang, Lu Li, Reagan Mullaney, Yukitomo Arai, Perry J. Blackshear and Keith L. Kirkwood, under review, 1/26

C. Book Chapters (*Corresponding author)

1. ***Kirkwood, K.L.**, K.T. Miyasaki, R. J. Nisengard, and S. K. Haake. *Immunity and Inflammation: Basic Concepts*. In: Carranza's Clinical Periodontology, 10th Edition, Eds. Newman, et al. Chpt. 12 p. 209-227, 2006.
2. ***Kirkwood, K.L.**, M. Taba Jr., C. Rossa, Jr., P. M. Preshaw, and W.V. Giannobile. *Molecular Signaling Aspects of Pathogen-mediated Bone Destruction in Periodontal Diseases*. In: Carranza's Clinical Periodontology, 10th Edition, Eds. Newman, et al. Cpt.15, p. 259-274, 2006.
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4. ***Kirkwood, K.L.** *Periodontal Disease and Oral Bone Loss*. In Primer of the Metabolic Bone Diseases and Disorders of Mineral Metabolism, 7th Edition, Ed. Rosen, 510-513, 2008.
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10. ***Kirkwood K.L.** *Targeting MAPK/MKP Signaling as a Therapeutic Axis in Periodontal Disease*. In: *Emerging Therapies in Periodontics*. Ed. Sinem Esra Sahingur, 2019
 11. ***Kirkwood, KL**, Rossa C, Jr., Hajishengallis G, Decker A, and Kapila YL. *Host-microbe interactions and the inflammatory response*. In: *Carranza's Clinical Periodontology*, 14th Edition, Eds. Newman, et al. 2023
- D. Abstracts and/or Presentations— >200 abstracts (available upon request).