

# Faculty Research Profiles



<b>Name:</b> Antonio (Tony) L. Amelio
<b>Division:</b> Oral and Craniofacial Health Sciences; Cell Biology and Physiology; Lineberger Comprehensive Cancer Center; Biomedical Research Imaging Center
<b>Title:</b> Associate Professor
<b>Telephone:</b> Office (919) 537-3309   Lab (919) 537-3405
<b>Office Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Lab:</b> 3510 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 3605 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:antonio_amelio@unc.edu">antonio_amelio@unc.edu</a>
<b>Lab Website:</b> <a href="http://ameliolab.web.unc.edu/">http://ameliolab.web.unc.edu/</a>

## Description of Research:

The Amelio Lab applies an interdisciplinary approach to understand the mechanisms underlying the development of oral, head, and neck cancers. To this end, we are investigating the signaling pathways that drive mucoepidermoid carcinoma of the salivary gland and oral squamous cell carcinoma using a combination of bioinformatics, animal models, and molecular genetic analyses.

## Keywords:

Biochemistry, Carcinogenesis, Cell biology, Cell culture, Gene expression, Genetics, Molecular biology, Neoplasia, Oral biology, Salivary glands, Signal Transduction, Biomarkers, Bioinformatics

## Willingness and interest to mentor:

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc



<b>Name:</b> Roland R. Arnold
<b>Division:</b> Diagnostic Sciences
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3165
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7457 Chapel Hill, NC 27599-7457
<b>Office:</b> 3043 First Dental Bldg.
<b>Lab:</b> 3030 First Dental Bldg.
<b>Email:</b> <a href="mailto:roland_arnold@unc.edu">roland_arnold@unc.edu</a>

**Description of Research:**

Our interests include host-pathogen interactions at mucosal surfaces including the oral cavity and the respiratory and gastrointestinal tracts. Our studies examine both innate and acquired soluble host defense factors that are delivered to mucosal surfaces by exocrine secretions. We are also interested in the strategies of both pathogens and indigenous (normal flora) microbes for evading these host defense factors. As professional phagocytic cells such as the polymorphonuclear neutrophilic leukocytes employ similar antimicrobial agents to that found in secretions, we are interested in how these function in the cell. In order to understand the importance of these functions, we are interested in patient populations that have selective dysfunctions in discrete components of either exocrine secretions (e.g. IgA deficiency, cystic fibrosis, Sjogrens, ionic cofactors) or in neutrophils (e.g. chronic granulomatous disease, specific granule deficiency, lactoferrin, defensins, myeloperoxidase, adhesins, elastase). We are interested in specific pathogens associated with periodontal diseases, caries, chronic inflammatory diseases, respiratory pathogens including cystic fibrosis, COPD, lung transplants. These pathogens include among others Streptococcus mutans, Lactobacillus acidophilus, Porphyromonas gingivalis, Fusobacterium nucleatum, Prevotella intermedia, Tannerella forsythia, Aggregatibacter actinomycetemcomitans, Pseudomonas aeruginosa and Burkholderia cepacia. We also have expertise in the evaluation of efficacies of antimicrobials to a variety of target microorganisms.

**Keywords:**

Antimicrobial agents/inhibitors, Biofilm, Caries organisms, Cell biology, Host- microbial interactions, Infection, Inflammation, Mucosal diseases, Periodontal organisms, Saliva, mucosal immunity, secretory immunity, ecology, innate immunity

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Silvana P. Barros
<b>Division:</b> Comprehensive Oral Health (Periodontics)
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3166
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 3501E Koury Oral Health Sciences Bldg.
<b>Lab:</b> 3417 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Silvana_barros@unc.edu">Silvana_barros@unc.edu</a>

### **Description of Research:**

My research interests are on translational studies using mammalian models and cell lines as well as clinical studies to investigate the cellular and molecular basis of periodontal pathogenesis and the implications and impact of this infectious inflammatory disease on systemic health. These topics have been the focus of my translational research interests and mentoring activities. I have developed new and modified existing infection models to be applied in mice on pre-clinical investigations aiming to develop new antimicrobials, as well as new pharmaceuticals. I combine my expertise on basic science: structural morphology and cell biology, with recent discoveries that we pioneered on epigenetics, transcriptome analysis in periodontal health and diseases, genome-wide associations, as well as epigenome wide association studies (EWAS) to investigate the effects of infection, inflammation and other environmental stressors in oral diseases. In our laboratory, we have investigated the role of oral bacteria on fetal growth restriction and epigenetic modifications of genes associated with growth and metabolism in the offspring of pregnant mice that pioneered our understanding of epigenetics as a contributing factor to development of periodontal disease.

### **Keywords:**

Periodontal disease, epigenetics, oral-systemic diseases

### **Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty members



<b>Name:</b> James Beck
<b>Division:</b> Comprehensive Oral Health (Periodontics)
<b>Title:</b> W.R. Kenan Distinguished Professor
<b>Telephone:</b> (919) 537-3241
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 4501D Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:James_Beck@unc.edu">James_Beck@unc.edu</a>

**Description of Research:**

Oral epidemiology, periodontal disease, inflammation, oral and systemic disease, periodontal disease classification.

Keywords:

Outcomes, risk, elderly, utilization, demand

**Willingness and interest to mentor:**

Graduate student, undergraduate DDS or DH student and junior faculty member



<b>Name: Kimon Divaris</b>
<b>Division:</b> Pediatric and Public Health (Pediatric Dentistry)
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3556
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 4501C Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4411B Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:kimon_divaris@unc.edu">kimon_divaris@unc.edu</a>

**Research:**

Diverse research portfolio interrogating both proximal and distal determinants of oral health and disease, ranging from genomics of oral health traits and behavioral sciences to health disparities and dental education. Currently NIH-funded research is supported by grants U01-DE025046 and XO1HG010871 (ZOE 2.0 study, “Genome-wide association study of early childhood caries”).

**Keywords:**

Children, dental caries, public health, genomics, inflammation, microbiome, behavioral sciences, dental education

**Willingness and interest to mentor:**

Graduate student, postdoc



<b>Name:</b> Ibrahim Duqum
<b>Division:</b> Comprehensive Oral Health (Prosthodontics)
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3964
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 337 Brauer Hall
<b>Email:</b> <a href="mailto:duqumibr@unc.edu">duqumibr@unc.edu</a>

**Description of Research:**

All Ceramic restorations. Digital Dentistry in both restorative and implant dentistry. CAD/CAM in dentistry. Osseointegration and survival and success of dental implants. Edentulism and attachments for complete dentures. Survival and success of dental extracoronal restorations. Dental educational research and application of digital dentistry in dental education

**Keywords:**

CAD/CAM, Ceramics, Clinical trials, Dental materials, Education research, Esthetics, Implants, Impression materials, Prosthesis, Technology

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student and junior faculty member



<b>Name:</b> Eric T. Everett
<b>Division:</b> Oral and Craniofacial Health Sciences
<b>Title:</b> Professor
<b>Mailing Address:</b> 123 W Franklin St, Rm. 6070   Carolina Square Bldg. C   Chapel Hill, NC 27516
<b>Office:</b> Campus Box #7455
<b>Lab:</b> 4417 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:eric_everett@unc.edu">eric_everett@unc.edu</a>

**Description of Research:**

Genetic basis for acquired and congenital defects of the oral/craniofacial/dental complex. Normal variation of oral and craniofacial structures. Literature of birth defects and dysmorphology. Integration of genetics in DDS curriculum.

**Keywords:**

Ameloblasts, Anatomy, Animal Models, Biochemistry, Birth Defects, Bone, Cell Biology, Dental Education, Enamel Biology, Fluorosis, Gene Expression, Genetics

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



**Name:** Lynn Fox

**Division:** Craniofacial and Surgical Care

**Title:** Associate Professor

**Telephone:** (919) 537-3509

**Mailing Address:** UNC Adams School of Dentistry | 385 South Columbia Street CB #7450  
Chapel Hill, NC 27599-7450

**Office:** 008 Brauer Hall

**Email:** [lynn\\_fox@unc.edu](mailto:lynn_fox@unc.edu)

**Description of Research:**

Craniofacial team functioning, healthcare literacy, speech and language, stuttering

**Keywords:**

Cleft lip-palate, Speech-Language Pathology, Stuttering, Craniofacial

**Willingness and interest to mentor:**

Undergraduate/college student interested in Speech-Language Pathology, graduate student interested in Speech-Language Pathology, and junior faculty member





<b>Name:</b> Sylvia Frazier-Bowers
<b>Division:</b> Craniofacial and Surgical Care (Orthodontics)
<b>Title:</b> Associate Professor, Assistant Dean for Inclusive Excellence and Equity Initiatives
<b>Telephone:</b> (919) 537-3758
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 271 Brauer Hall
<b>Lab:</b> 4411 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:sylvia_frazier@unc.edu">sylvia_frazier@unc.edu</a>

**Description of Research:**

As a clinician-scientist, it is also my goal to bridge the gap between the clinical profession and scientific advances to ensure that this is the foundation that our future generations of dentists receive. My current efforts also broadly focus on gene discovery and phenotype dissection of dentofacial variation specifically 1) tooth development 2) tooth eruption and 3) tooth agenesis using multiple translational methods.

**Keywords:**

Human genetics, malocclusion, craniofacial, eruption studies, tooth agenesis

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Tate H. Jackson
<b>Division:</b> Craniofacial and Surgical Care (Orthodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3775
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 273 Brauer Hall
<b>Email:</b> <a href="mailto:tatejackson@unc.edu">tatejackson@unc.edu</a>

**Description of Research:**

The use of web-based and self-directed learning strategies in dental education; The epidemiology of surgical-orthodontic treatment; Genetic epidemiology of common oral diseases.

**Keywords:**

Epidemiology, Dental Education Research, Orthodontics

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student



<b>Name:</b> Laura Jacox
<b>Division:</b> Oral and Craniofacial Health Sciences   Craniofacial and Surgical Care
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3768
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 2901 First Dental Bldg.
<b>Lab:</b> 2090 First Dental Bldg.
<b>Email:</b> <a href="mailto:ljacox@live.unc.edu">ljacox@live.unc.edu</a>

**Description of Research:**

The primary focus of my research program has been on longitudinal clinical studies of speech distortions in jaw surgery patients. The other focus of my lab is on social science research in dentistry, including qualitative methods (interviews, focus groups) and quantitative approaches (survey development) investigating trends in orthodontics. As part of the COVID-19 research response, we are studying antiseptic mouth rinses for their ability to limit salivary viral infectivity. Finally, we are exploring applications of animal-assisted therapy for management of dental anxiety in pediatric dental populations.

**Keywords:**

Orthodontics, growth, development, adolescents, children, animal, anxiety, surgery, malocclusion, occlusion, speech, mastication, saliva, mouth rinses, jaw, dentofacial, disharmony, oral, orthognathic, therapy, dogs, COVID-19, craniofacial

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc and/or junior faculty member



<b>Name:</b> Brandon Johnson
<b>Division:</b> Comprehensive Oral Health
<b>Title:</b> Diagnostic Sciences
<b>Telephone:</b> (919) 537-3148
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 5511J Koury Oral Health Sciences Bldg.
<b>Lab:</b> Radiology Clinic
<b>Email:</b> <a href="mailto:Brandon_johnson@unc.edu">Brandon_johnson@unc.edu</a>

**Description of Research:**

Oral and Maxillofacial Radiology dosimetry, evaluation of radiology equipment/devices, patient and operator dose, effective dose, image quality, radiology/radiography education.

**Keywords:**

Oral and maxillofacial, radiology, effective dose, radiation, exposure

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty members



<b>Name:</b> Lorne D. Koroluk
<b>Division:</b> Craniofacial and Surgical Care (Orthodontics)   Pediatric and Public Health (Pediatric Dentistry)
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3784
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 237 Brauer Hall
<b>Email:</b> <a href="mailto:lorne_koroluk@unc.edu">lorne_koroluk@unc.edu</a>

**Keywords:**

Malocclusion, growth and development, teaching, ulcerations; fungal; cancer; facial; dermatologic

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc and/or junior faculty member



<b>Name:</b> Mark J. Kutcher
<b>Division:</b> Comprehensive Oral Health
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3140
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 5405C Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:kutcherm@unc.edu">kutcherm@unc.edu</a>

**Description of Research:**

Diagnosis and management of oral diseases such as viral, fungal, ulcerations etc.; facial cancer, dental management of medically compromised patients

**Keywords:** Antimicrobials, Clinical trials, Halitosis, Mucosal diseases, Neoplasia, Oral mucosa, Pathology, Teaching, Viruses, ulcerations, fungal, cancer, facial, dermatologic

**Willingness and interest to mentor:**

Graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Jessica Y. Lee
<b>Division:</b> Pediatric and Public Health (Pediatric Dentistry)
<b>Title:</b> Demeritt Distinguished Professor
<b>Telephone:</b> (919) 537-3955
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 231 Brauer Hall
<b>Lab:</b> 4501 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:leej@unc.edu">leej@unc.edu</a>

**Description of Research:**

Health Services Research, Epidemiology, Health Disparities, Healthy Literacy

**Keywords:**

Access to Care, Behavioral science, Delivery systems, Health Policies research, Public Health Dentistry

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Julie T. Marchesan
<b>Division:</b> Comprehensive Oral Health (Periodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3853
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 3506 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 3411 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Julie_Marchesan@unc.edu">Julie_Marchesan@unc.edu</a>
<b>Lab Website:</b> <a href="http://marchesanlab.web.unc.edu/">http://marchesanlab.web.unc.edu/</a>

**Description of Research:**

My research interest is on the pathogenesis of periodontal disease with a focus on the host response. This response is greatly influenced by both genetic factors and different microorganisms. Specifically, I have focused on the role of pathogen recognition receptors and sensors (TLR, NLR, IFI16, AIM2) and novel pathobionts (*E. saphenum*, *F. alocis*, *Synergistetes*) in the host response.

**Keywords:**

Host response, periodontitis, pathobionts

**Willingness and interest to mentor:**

Undergraduate/college student, Graduate student, Postdoc





<b>Name:</b> Patricia (Pat) Miguez
<b>Division:</b> Comprehensive Oral Health (Periodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3324
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 4606 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4605-4611 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:patricia_miguez@unc.edu">patricia_miguez@unc.edu</a>
<b>Lab Website:</b> <a href="http://patmiguez.web.unc.edu">http://patmiguez.web.unc.edu</a>

### **Description of Research:**

Currently there is a gap of knowledge in that we have not been able to identify a reliable form of preventing dentin and bone loss in various physiological and pathological scenarios. My long-term goals are to unveil novel mechanisms of protecting such mineralized tissues, characterize new effective agents and ultimately bring these agents to clinical practice. My research studies have concentrated in understanding collagen biochemistry and tissue mechanical properties link; promotion of mineralization (re-mineralization) in dentin and bone and, more recently, focused in the role of the proteoglycan biglycan in promotion of craniofacial bone regeneration through modulation of bone morphogenetic protein function. Other biological and translational experiments are in development to promote dentin formation. Another area of interest is on integrative medicine where I seek to understand how natural compounds (phytochemicals) act on cell behavior, extracellular matrix quality and mineralization as well as their effect on oral diseases development such as caries and periodontal disease.

### **Keywords:**

Animal, collagen, regeneration, biomaterials, bone, dentin, extracellular matrix molecules, mineralization, tissue engineering, osteoblasts/osteoclasts, phytochemicals, signal transduction, molecular biology, mechanical properties, proteoglycans, tissue and organ culture

### **Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student and postdoc



<b>Name:</b> Antonio J. Moretti
<b>Division:</b> Comprehensive Oral Health (Periodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3727
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 117 Brauer Hall
<b>Email:</b> <a href="mailto:antonio_moretti@unc.edu">antonio_moretti@unc.edu</a>

**Description of Research:**

Clinical Research

**Willingness and interest to mentor:**

Graduate student, undergraduate DDS or DH student and/or junior faculty member



**Lab URL:** <https://www.dentistry.unc.edu/about/departments-units/ortho/research/orofacial-imaging-lab/>

<b>Name:</b> Tung T. Nguyen
<b>Division:</b> Craniofacial and Surgical Care (Orthodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3764
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 272 Brauer Hall
<b>Lab:</b> 2080 First Dental Bldg.
<b>Email:</b> <a href="mailto:patricia_miguez@unc.edu">patricia_miguez@unc.edu</a> <a href="mailto:tung_nguyen@unc.edu">tung_nguyen@unc.edu</a>
<b>Lab Website:</b> <a href="http://patmiguez.web.unc.edu">http://patmiguez.web.unc.edu</a>

**Description of Research:**

My imaging lab's focus is to develop 3D software to evaluate growth and treatment changes. Our research focuses on treatment outcomes and changes with the use of skeletal anchorage, Orthognathic surgery and 3D customized technology.

**Keywords:**

Orthodontics, 3D Imaging, Skeletal Anchorage, Malocclusion, Growth and Development

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc and junior faculty member



<b>Name:</b> Lauren Patton
<b>Division:</b> Craniofacial and Surgical Care
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3582
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 3140 First Dental Bldg.
<b>Email:</b> <a href="mailto:lauren_patton@unc.edu">lauren_patton@unc.edu</a>

**Description of Research:**

Clinical trials for mucosal disease treatment or prevention, Oral complications of radiation therapy or other systemic disease management, Oral cancer prevention and early diagnosis, Management of patients with systemic disease, Oral and systemic disease interaction, HIV infection and AIDS patient dental care, access to care, oral lesions, Health services research, outcomes research, public health dentistry topics, Systematic reviews to assess evidence base for dental treatment processes

**Keywords:**

Clinical trials, Diagnosis, Clinical Epidemiology, HIV infection, Health Policy research, Mucosal diseases, Public Health Dentistry, Salivary dysfunction, Systematic review, Tobacco, Oral cancer, Medically complex patients

**Willingness and interest to mentor:**

Graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name: Ceib L. Phillips</b>
<b>Division:</b> Oral and Craniofacial Health Sciences
<b>Title:</b> Professor, Associate Dean for Graduated/Advanced Education
<b>Telephone:</b> (919) 537-3373
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 3120 First Dental Bldg.
<b>Email:</b> <a href="mailto:ceib_phillips@unc.edu">ceib_phillips@unc.edu</a>

**Description of Research:**

Clinical Trial Methodology; Survey Research

**Keywords:**

Methodology

**Willingness and interest to mentor:**

Graduate student



<b>Name:</b> Luiz A. Pimenta
<b>Division:</b> Comprehensive Oral Health (Prosthodontics)
<b>Title:</b> Professor, ASPID Program Director
<b>Telephone:</b> (919) 537-3725
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 5417 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Luiz_Pimenta@unc.edu">Luiz_Pimenta@unc.edu</a>

**Description of Research:**

Clinical research in cleft lip/palate and craniofacial anomalies. Also, clinical and lab research in cariology

**Keywords:**

Assessment, biofilm, bone repair, caries, cariology, cleft lip-palate, clinical Trials, esthetics, fluoride, prostheses

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Rocio B. Quinonez
<b>Division:</b> Pediatric and Public Health (Pediatric Dentistry)
<b>Title:</b> Associate Professor, Associate Dean for Educational Leadership and Innovation
<b>Telephone:</b> (919) 537-3799
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 1611H Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:rocio_quinonez@unc.edu">rocio_quinonez@unc.edu</a>

**Description of Research:**

Dental education; early childhood oral health; prenatal oral health; interface between medicine and dentistry, access to care

**Keywords:**

Education, dental care, access, prenatal, medicine, interprofessional education

**Willingness and interest to mentor:**

Undergraduate DDS or DH, graduate student, junior faculty member



<b>Name:</b> Apoena de Aguiar Ribeiro
<b>Division:</b> Diagnostic Sciences
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3684
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7457 Chapel Hill, NC 27599-7457
<b>Office:</b> 3070 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 3611 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:apoena@email.unc.edu">apoena@email.unc.edu</a>

**Description of Research:**

The focus of my research agenda include: (1) the biomolecular evaluation of the oral microbiome and its metabolome associated to caries and other oral diseases; (2) clinical caries diagnosis, detection, prevention and treatment; (3) oral health promotion in children with systemic diseases; (4) the investigation of virulence factors associated to infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA).

**Keywords:**

Bacterial, Biofilm, Caries, Caries organisms, Cariology, Children, Diagnosis, Microbiology, Molecular Biology, Saliva Other Keywords: Cariogenicity, Dentin, Enamel, Gene expression, Microbiome, Metagenome, Proteome, Metabolome, Plaque

**Willingness and interest to mentor:**

Undergraduate, graduate student, postdoc; junior faculty member





<b>Name:</b> Anne E. Sanders
<b>Division:</b> Pediatric and Public Health (Public Health)
<b>Title:</b> Associate Professor
<b>Telephone:</b> (919) 537-3275
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 4502 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4605-4611 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:anne_sanders@unc.edu">anne_sanders@unc.edu</a>

**Description of Research:**

My major research interest relates to the use of social epidemiology theories and principles for informing our understanding of how social inequalities in health are generated and maintained

**Keywords:**

Oral epidemiology; social epidemiology; chronic pain; sleep-disordered breathing and oral health; omega-3 polyunsaturated fatty acids; Hispanic oral health; NHANES, Social gradient, depression, lipidomic, population

**Willingness and interest to mentor:**

Graduate student, postdoc; junior faculty member



<b>Name:</b> Rishma Shah
<b>Division:</b> Craniofacial and Surgical Care (Orthodontics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3767
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 276 Brauer Hall
<b>Lab:</b> 4617 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:rishma_shah@unc.edu">rishma_shah@unc.edu</a>
<b>Lab Website:</b> <a href="http://craniofacialengineer.web.unc.edu/">http://craniofacialengineer.web.unc.edu/</a>

**Description of Research:**

Investigate the etiology of the skeletal muscle tissue defect in craniofacial deformity patients. Understand the innate repair and regenerative process of the skeletal muscle tissue in craniofacial deformity patients. Engineer autologous skeletal muscle tissue for implantation into sites of defect in craniofacial deformity patients.

**Keywords:**

Cleft lip-Palate, Malocclusion, Biomaterials, Tissue engineering, Muscle, Bioengineering, Regeneration, Extracellular matrix molecules, Hormones and growth factor, Gene expression

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Gary Slade
<b>Division:</b> Pediatric and Public Health (Public Health)
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3273
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 4501E Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:gary_slade@unc.edu">gary_slade@unc.edu</a>

**Description of Research:**

Oral epidemiology; Orofacial pain; Oral health related quality of life; Population prevention of oral disease

**Keywords:**

Epidemiology, Pain, Public Health Dentistry, Quality of life

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Taiseer Sulaiman
<b>Division:</b> Comprehensive Oral Health (Operative Dentistry)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-5251
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 5405H Koury Oral Health Sciences Bldg.
<b>Lab:</b> 5617D Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Taiseer_Sulaiman@unc.edu">Taiseer_Sulaiman@unc.edu</a>

**Description of Research:**

Our area of research focuses on multidisciplinary translational research, with in-vitro investigation of biomaterials that can have the maximum clinical relevance. Developing novel biomaterials in addition to testings' that can help provide a blue print for further clinical investigations.

**Keywords:**

Education research, caries, prevention, polymerization, polymers, tooth wear, enamel, dentin, lasers, biomechanics, implantology

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc and/or junior faculty member, visiting scholars



<b>Name:</b> Peter Tawil
<b>Division:</b> Comprehensive Oral Health (Endodontics)
<b>Title:</b> Assistant Professor   Interim Graduate Program Director
<b>Telephone:</b> (919) 537-3376
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 1150 First Dental Bldg.
<b>Email:</b> <a href="mailto:peter_tawil@unc.edu">peter_tawil@unc.edu</a>

Description of Research:  
Endodontic and Endodontic Surgery

**Keywords:**  
Periapical Microsurgery, Dental Defects, Endodontic Instruments, Endodontic Materials, Outcome, Pulpotomies

**Willingness and interest to mentor:**  
Graduate student, postdoc and/or junior faculty member



<b>Name:</b> Inna Tchivileva
<b>Division:</b> Oral and Craniofacial Health Sciences
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3291
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 5509 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 5617 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:inna_tchivileva@unc.edu">inna_tchivileva@unc.edu</a>

**Description of Research:**

My research objectives are to identify genetic variants influencing pain sensitivity, the likelihood of developing chronic pain disorders, and the response to pain therapy. I am interested in developing and conducting pharmacogenetics clinical trials translating basic research findings into clinical practice. Recently, my efforts have concentrated on studying the effect of catecholamine-O-methyltransferase gene polymorphism on response to beta-adrenergic blocker therapy in patients with temporomandibular joint disorder (TMD) and relationship between TMD and headache.

**Keywords:**

Central nervous system/peripheral nervous system, Gene expression, Genetics, Human, Neuroscience, Outcome (Health), Pain, Pharmacology, Clinical trials, TMJ and masticatory muscles

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student



<b>Name:</b> Jennifer Webster-Cyriaque
<b>Division:</b> Oral and Craniofacial Health Sciences (Microbiology and Immunology)
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3492
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 4506 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4405 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Jennifer_Cyriaque@unc.edu">Jennifer_Cyriaque@unc.edu</a>

**Description of Research:**

Viral oral infections in Immunosuppression and Cancer- VOIIce Viral Oral Infections in Immunesuppression and Cancer (VOIIce)Research Discipline: Microbiology viral pathogenesis/Clinical translational oral medicine.

The laboratory is seeking to understand the critical molecular interactions between the virus and the host that govern the development of oral lesions and malignancies and to translate these findings to the many immune compromised patients seen in practice that are burdened by oral disease. In addition to clinical trials based work designed to translate laboratory findings, there are 3 major areas of study in the laboratory: Mechanisms of Viral Pathogenesis/Reactivation in the Oral cavity and other compartments; HPV in oral disease and cancer; and Clinical Trials SPNS: UNC HIV Oral Health Demonstration Project

**Keywords:**

Oral mucosa, HIV, Carcinogenesis, Polymicrobial, Virus, Oral Medicine

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty members



<b>Name:</b> Jane Weintraub
<b>Division:</b> Comprehensive Oral Health
<b>Title:</b> Rozier Douglass Distinguished Professor
<b>Telephone:</b> (919) 537-3240
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 4508 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4508 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:Jane_Weintraub@unc.edu">Jane_Weintraub@unc.edu</a>

**Description of Research:**

My research involves the disciplines of dental public health, oral epidemiology, and clinical research focused on oral disease prevention and understanding and reducing oral health disparities in children and older adults. I enjoy research that has implications for the future of dental education, dental practice and health policy.

**Keywords:**

Access, Caries, Children, Clinical trials, Education, Elderly, Epidemiology, Health Services, Preventive dentistry, Dental public health, Health Disparities, Populations

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty members





<b>Name:</b> Raymond White
<b>Division:</b> Craniofacial and Surgical Care (Oral and Maxillofacial Surgery)
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3944
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 149 Brauer Hall
<b>Email:</b> <a href="mailto:ray_white@unc.edu">ray_white@unc.edu</a>

**Description of Research:**

Clinical research topics related to orthognathic surgery, third molar management

**Keywords:**

Biofilm, Clinical trials, Periodontal disease, Quality of life, Surgery

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> John Timothy Wright
<b>Division:</b> Pediatric and Public Health (Pediatric Dentistry)
<b>Title:</b> James Bawden Distinguished Professor
<b>Telephone:</b> (919) 537-3216
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7450 Chapel Hill, NC 27599-7450
<b>Office:</b> 4410 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4110 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:tim_wright@unc.edu">tim_wright@unc.edu</a>
<b>Lab Website:</b> <a href="http://patmiguez.web.unc.edu">http://patmiguez.web.unc.edu</a>

**Description of Research:**

My research interests involve advancing our understanding of community-based treatment approaches including school based oral health care. Recent research involves performing systematic reviews pursuant to developing oral health care guidelines

**Keywords:**

Dental Caries, Sealants, Fluoride

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Di Wu
<b>Division:</b> Oral and Craniofacial Health Sciences (Biostatistics)
<b>Title:</b> Assistant Professor
<b>Telephone:</b> (919) 537-3277
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 4504 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4507 Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:dwu@unc.edu">dwu@unc.edu</a>
<b>Lab Website:</b> <a href="http://diwulab.web.unc.edu/">http://diwulab.web.unc.edu/</a>

**Description of Research:**

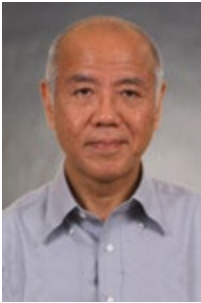
Our group develops novel statistical bioinformatics tools and applies them in biomedical research to help understanding the precision medicine for cancer (e.g., breast cancer and lung cancer) subtypes, the disease associated integrative pathways across multiple genomic regulatory levels, and the potential of drug repurposing mechanisms. Our recent focus includes pathway analysis, microbiome data analysis, data integration and EMR. Our application fields include cancer, stem cell, autoimmune disease and oral biology.

**Keywords:**

Biostatistics, cancer, oral biology, Bioinformatics, Gene expression, genomics, microbiome, health informatics, data integration, stem cell, autoimmune disease

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member



<b>Name:</b> Mitsuo Yamauchi
<b>Division:</b> Oral and Craniofacial Health Sciences (Periodontics)
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3217
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 4606 Koury Oral Health Sciences Bldg.
<b>Lab:</b> 4605A-E Koury Oral Health Sciences Bldg.
<b>Email:</b> <a href="mailto:mitsuo_yamauchi@unc.edu">mitsuo_yamauchi@unc.edu</a>

**Description of Research:**

Biology and chemistry of extracellular matrix proteins, Biological significance of collagen post-translational modifications in mineralization, tissue stability, aging and cancer metastasis, Role of small leucine-rich proteoglycans in growth factor function and bone tissue engineering

**Keywords:**

Aging, Biochemistry, Bone, Collagen, Dentin, Enzymes, Extracellular matrix molecules, Mineralization, osteoblasts, Tissue engineering, Collagen post-translational modification, osteogenesis imperfecta, cancer metastasis

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, postdoc and/or junior faculty member



<b>Name:</b> David Zajac
<b>Division:</b> Craniofacial and Surgical Care
<b>Title:</b> Professor
<b>Telephone:</b> (919) 537-3525
<b>Mailing Address:</b> UNC Adams School of Dentistry   385 South Columbia Street CB #7455 Chapel Hill, NC 27599-7455
<b>Office:</b> 007 Brauer Hall
<b>Lab:</b> 016 Brauer Hall
<b>Email:</b> <a href="mailto:david_zajac@unc.edu">david_zajac@unc.edu</a>
<b>Lab Website:</b> <a href="http://dzajac.web.unc.edu">http://dzajac.web.unc.edu</a>

**Description of Research:**

As a clinical speech-language pathologist and speech scientist my research focuses on speech production in general and speech associated with craniofacial anomalies in particular. We are currently conducting an NIDCR-sponsored project investigating the emergence of stop consonants and how speech changes over time in young children with repaired cleft palate, children with otitis media, and typically developing children. We also investigate the effects of dental and occlusal anomalies on speech production.

**Keywords:**

Children, Cleft lip-palate, Infants, speech production, speech aerodynamics, speech acoustics, velopharyngeal function

**Willingness and interest to mentor:**

Undergraduate/college student, graduate student, undergraduate DDS or DH student, and junior faculty member