

# DEPARTMENT OF BIOMEDICAL SCIENCES

The Department of Biomedical Sciences serves as a hub for basic and translational research at the School of Dentistry, located in Dallas. Additional interdisciplinary and translational research opportunities are provided by research faculty located in the clinical departments or specialty areas of Advanced Education in General Dentistry, Comprehensive Dentistry, Diagnostic Sciences, Endodontics, Oral and Maxillofacial Pathology, Oral and Maxillofacial Radiology, Oral and Maxillofacial Surgery, Orthodontics, Periodontics, Prosthodontics, and Public Health Sciences. Faculty participating in the graduate programs have research interests that range widely within a central focus area of craniofacial biology. These research interests include:

## Bioengineering and Regeneration

This focus area offers a wide range of research projects using bioengineering scaffolds and delivery vehicles needed for tissue regeneration, plus biomechanics of dental tissues (particularly dentin and bone), with the application of this data to the design of new dental materials).

## Craniofacial Development and Genetics

New discoveries in genetic epidemiology and the functional genomics of commonly inherited disorders have opened up avenues for early diagnosis and intervention.

## Mineralized Tissue Biology

This area of study includes a broad spectrum of topics covering cell-cell and cell-matrix interactions during organogenesis and structural biology.

## Translational Research

A highly interdisciplinary field aimed at developing a new cadre of biomedical researchers trained formally in translational and clinical research.

## Neuroscience, Pain, and Sleep Apnea

This area explores craniofacial pain pathways using TMJ dysfunction as a model along with sleep disordered breathing.

## Microbiology and Immunology

Molecular mechanisms of host-microbe interactions of homeostasis and dysbiosis for oral systemic health.

In addition to many well-equipped individual laboratories, the School provides access to core facilities and analytical instruments, including advanced microscopes (confocal, laser capture, slide scanning, and scanning electron microscope), real-time PCR, and microCT. In 2022, a new multiphoton microscope was added to the core facilities.

Expert faculty provide basic science instruction to students in dental, dental hygiene, and graduate clinical specialty programs, as well as those in pursuit of an MS in Oral Biology (OBIO) or PhD in Oral and Craniofacial Biomedical Sciences (OCBS). These graduate programs are administered by a graduate program committee, with members from basic science and clinical backgrounds.

## Faculty

Benson, M D, Associate Professor  
Biomedical Sciences  
PHD, University of Michigan, 2000

Honeyman, Allen L, Instructional Associate Professor  
Biomedical Sciences  
PHD, University of Kansas, 1988

Kramer, Phillip R, Professor  
Biomedical Sciences  
PHD, Texas A&M University, 1996

Liu, Sufang, Research Assistant Professor  
Biomedical Sciences  
MD, Henan Medical University, 2000  
PHD, Zhengzhou University, China, 2014

Liu, Xiaohua, Professor  
Biomedical Sciences  
PHD, Tsinghua University, China, 2002

Logan, Shaun M, Instructional Assistant Professor  
Biomedical Sciences  
PHD, University of North Texas Health Science Center, 2009

Lu, Yongbo, Associate Professor  
Biomedical Sciences  
MD, Qingdao University Medical College, 1994  
PHD, University of Missouri at Kansas City, 2007

Newman, Joseph T, Adjunct Associate Professor  
Biomedical Sciences  
PHD, University of Texas Medical School at San Antonio, 1973

Opperman, Lynne A, Regents Professor  
Biomedical Sciences  
PHD, University of the Witwatersrand, South Africa, 1985

Qin, Chunlin, Professor  
Biomedical Sciences  
PHD, Okayama University, 1998  
DMD, Harbin Medical University, 1983

Reuben, Jayne S, Instructional Associate Professor  
Biomedical Sciences  
PHARM D, Florida A&M University, 2001

Ruest, Louisbruno, Associate Professor  
Biomedical Sciences  
PHD, McGill University, Montreal, Canada, 2002

Schneiderman, Emet D, Professor  
Biomedical Sciences  
PHD, University of Michigan at Ann Arbor, 1985

Suh, Laura, Adjunct Associate Professor  
Biomedical Sciences  
PHD, University of Wisconsin, Madison, 1994

Svoboda, Kathy K, Regents Professor  
Biomedical Sciences  
PHD, University of Nebraska Medical Center, 1982

Tao, Feng, Professor  
Biomedical Sciences  
MD, Wannan Medical College, People's Republic of China, 1986  
PHD, Fudan University, China, 2000

Umorin, Mikhail P, Instructional Assistant Professor  
Biomedical Sciences  
PHD, Baylor University, 2006

Wang, Qian, Professor  
Biomedical Sciences  
PHD, Chinese Academy of Sciences, 1998

Wang, Xiaofang, Associate Professor  
Biomedical Sciences  
PHD, Fourth Military Medical University, China, 2003  
DDS, Fourth Military Medical University, China, 1995

Zhang, Hua, Instructional Assistant Professor  
Biomedical Sciences  
MD, Qingdao Medical College, Qingdao, China, 1994  
PHD, University of Missouri at Kansas City, 2010