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, 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
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MD, Wannan Medical College, People’s Republic of China, 1986
PHD, Fudan University, China, 2000

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

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

Wang, Xiaofang, Associate Professor
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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