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.

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

Feng, Jian Q, Regents Professor
Biomedical Sciences
MD, Qingdao University Medical College, 1976
PHD, University of Connecticut, 1991

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Biomedical Sciences
PHD, University of Kansas, 1988

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Biomedical Sciences
PHD, Texas A&M University, 1996

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PHD, Tsinghua University, China, 2002

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PHD, University of North Texas Health Science Center, 2009

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MD, Qingdao University Medical College, 1994
PHD, University of Missouri at Kansas City, 2007

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PHD, University of Texas Medical School at San Antonio, 1973

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PHD, University of the Witwatersrand, South Africa, 1985

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PHARMD, Florida A&M University, 2001

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PHD, University of Michigan at Ann Arbor, 1985

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PHD, University of Nebraska Medical Center, 1982

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PHD, Fudan University, China, 2000

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PHD, Baylor University, 2006

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PHD, Chinese Academy of Sciences, 1998

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PHD, Fourth Military Medical University, China, 2003
DDS, Fourth Military Medical University, China, 1995

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MD, Qingdao Medical College, Qingdao, China, 1994
PHD, University of Missouri at Kansas City, 2010