

# Our Faculty

[Adam Adler, Ph.D.](#)

*Professor*

**Research Interest:** Mechanisms of T cell tolerization to peripheral self-antigens, as well as, the relations between tolerance and tumor immunity.

[Hector Aguila, Ph.D.](#)

*Associate Professor*

**Research Interest:** Hematopoiesis and bone marrow microenvironment, lymphoid cell development, stem cell biology.

[Robert Aseltine Jr., Ph.D](#)

*Associate Professor*

**Research Interest:** Risk prevention; community based trials.

[Ernest Canalis, M.D.](#)

*Professor*

**Research Interest:** Skeletal growth factors, insulin-like growth factors, hormonal action in bone, mechanisms of glucocorticoid action in bone, and anabolic agents and osteoporosis.

[Gordon Carmichael, Ph.D.](#)

*Professor*

**Research Interest:** Regulation of gene expression in eukaryotes.

[Stormy Chamberlain, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Epigenetics, induced pluripotent stem cell (iPSC) models of human disease.

[I-Ping Chen, D.D.S., Ph.D.](#)

*Assistant Professor*

**Research Interest:** Generation of induced pluripotent stem (iPS) cells from craniometaphyseal dysplasia (CMD) patients and investigation of osteoclast biology in human stem cell system as well as in CMD mouse models.

[Jeff Chuang, Ph.D.](#)

*Associate Professor*

**Research Interest:** Computational biology and bioinformatics; genomics, gene regulation, molecular evolution, and metabolomics. Post transcriptional regulation and cancer genomics.

[Justin Cotney, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Determining how gene regulatory elements, namely enhancers, control gene expression during mammalian development.

[Caroline Dealy, Ph.D.](#)

*Associate Professor*

**Research Interest:** Limb and skeletal development; stem cells for cartilage repair and limb regeneration.

[Anne Delaney, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Extracellular matrix biology, and post-transcriptional regulation of gene expression in bone cells.

[Patricia Diaz, D.D.S., Ph.D.](#)

*Assistant Professor*

**Research Interest:** Oral biofilm ecology in health and disease.

[Anna Dongari-Bagtzoglou, M.S., D.D.S., Ph.D.](#)

*Associate Professor*

**Research Interest:** Pathogenesis of oral opportunistic infections in the immunocompromised host. Oral infection-induced inflammation. Innate immune factors limiting oral fungal infections.

[A. Jon Goldberg, Ph.D.](#)

*Professor*

**Research Interest:** Structure-property relationships for biomaterials, tissue engineering, fiber-reinforced composites.

[Rosaria Guzzo, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Identification of key epigenetic mechanisms that modulate the cartilage-forming potential of human iPS cells.

[Laura Haynes, Ph.D.](#)

*Professor*

**Research Interest:** How aging influences immune responses, especially to infectious diseases such as influenza and bacterial pneumonia.

[Christopher Heinen, Ph.D.](#)

*Associate Professor*

**Research Interest:** Biochemical and cellular defects of the DNA mismatch repair pathway during tumorigenesis.

[Jeffrey Hoch, Ph.D.](#)

*Professor*

**Research Interest:** Biophysical chemistry of proteins.

[Marja Hurley, Ph.D.](#)

*Professor Medicine*

**Research Interest:** Role of Fibroblast growth factors and fibroblast growth factor receptors in bone homeostasis.

[Ivo Kalajzic, M.D., Ph.D.](#)

*Assistant Professor*

**Research Interest:** Differentiation of mesenchymal stem cells into osteoblast lineage.

[Anne Kenny, M.D.](#)

*Associate Professor*

**Research Interest:** Interventions that decrease risk for falls, fractures and frailty in older men and women such as testosterone and vitamin D supplementation.

[Yusef Khan, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Strategies to synthesize scaffolds that are also capable of delivering proteins and growth factors essential for complete and adequate healing of bone defects through the use of biodegradable polymers alone and in combination with ceramic materials.

[Kamal M. Khanna, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Identifying the factors and the role they play in controlling the anatomy of a primary and secondary immune response in the hopes of explicating the underlying mechanisms that guide the complex movement of T cells during the infection and recall responses in lymphoid and non-lymphoid tissues.

[Liisa Kuhn, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Bone tissue engineering using stem cells.

[Sangamesh Kumbar, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Design and development of biodegradable scaffold systems for tissue repair and regeneration applications.

[Marc Lalonde, Ph.D.](#)

*Professor*

**Research Interest:** Role of epigenetics in disease and development.

[Reinhard Laubendacher, Ph.D.](#)

*Professor*

**Research Interest:** Development of mathematical algorithms and their application to problems in systems biology, in particular the modeling and simulation of molecular networks.

[Cato Laurencin, M.D., Ph.D.](#)

*Vice President of Health Affairs, Dean of School of Medicine, Professor*

**Research Interest:** Regenerative engineering using scaffolds of appropriate physical and chemical cues to differentiate stem cells to complex tissue type.

[Charles Lee, Ph.D.](#)

*Professor*

**Research Interest:** Structural (and copy number variation) in the human genome and the genomes of model organisms.

[Kyeong Lee, Ph.D.](#)

*Associate Professor*

**Research Interest:** Osteoclast biology and molecular and cellular regulation by cytokines in osteoclastogenesis.

[Jun Li, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Stem cells, neural development and degeneration.

[Alex Lichtler, Ph.D.](#)

*Associate Professor*

**Research Interest:** Focus on the molecules that regulate the differentiation of osteoblasts.

[Mark Litt, Ph.D.](#)

*Professor*

**Research Interest:** Cognitive, behavioral and affective processes that lead to changes in behavior in many health-related domains, including substance abuse, chronic pain, anxiety control, and exercise behavior.

[Edison Liu, M.D.](#)

*Professor*

**Research Interest:** Human cancer genomics, oncogene discovery, and translational molecular oncology.

[Joseph Lorenzo, M.D.](#)

*Professor Medicine*

**Research Interest:** The influence of the immunological system on bone remodeling; and the influence of estrogens and androgens on both bone resorption and the formation of bone resorbing cells (osteoclasts).

[Peter Maye, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Skeletal biology, osteogenesis, mesenchymal stem cells.

[Bruce Mayer, Ph.D.](#)

*Professor*

**Research Interest:** Mechanisms of signal transduction.

[Mina Mina, D.M.D., Ph.D.](#)

*Professor*

**Research Interest:** Elucidate the mechanisms regulating mandibular outgrowth and morphogenesis with an emphasis on the roles of signaling factors secreted by mandibular epithelium.

[Lakshmi Nair, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Regenerative biomaterials, tissue engineering, cell material interactions, injectable biomaterials.

[Frank Nichols, D.D.S., Ph.D.](#)

*Professor*

**Research Interest:** Study of periodontal bacterial lipids and their capacity to promote autoimmune disease through activation of the innate immune system.

[Syam Prasad Nukavarapu, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Design, fabrication and optimization of biodegradable scaffolds for bone tissue engineering, scaffold osteocompatibility evaluation in vitro and bone regeneration ability in vivo, methods to achieve scaffold vascularization for enhanced osteogenesis and bone regeneration via endochondral ossification.

[Zhengqing Ouyang, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Development and application of statistical and computational methodologies in the area of regulatory genomics. Chromatin structure, lncRNA, epigenomics and epitranscriptomics, and regulatory network.

[Carol Pilbeam, M.D., Ph.D.](#)

*Professor*

**Research Interest:** Regulation of bone formation and resorption in order to prevent and treat osteoporosis and to enhance skeletal repair.

[Ernst Reichenberger, Ph.D.](#)

*Associate Professor*

**Research Interest:** Bone homeostasis in rare craniofacial diseases.

[Blanka Rogina, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Investigation of the basic biology of aging, including the molecular genetic determinants of aging and longevity.

[Daniel Rosenberg, Ph.D.](#)

*Professor*

**Research Interest:** Molecular genetics of colorectal cancer, signaling pathways in the development of tumors; toxicogenomics.

[David Rowe, M.D.](#)

*Professor*

**Research Interest:** Skeletal tissue repair and regeneration.

[Yijun Ruan, Ph.D.](#)

*Professor*

**Research Interest:** Elucidating the structures and dynamics of all functional DNA elements in complex genomes through DNA sequencing analysis of genetic variations in genomes and transcriptomes.

[Archana Sanjay, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Regulation of bone remodeling; examining signaling pathways that regulate osteoblast and osteoclast differentiation and function.

[Linda Shapiro, Ph.D.](#)

*Associate Professor*

**Research Interest:** Understanding the regulation and function of cell surface

[Howard Tennen, Ph.D.](#)

*Professor*

**Research Interest:** Studies the dynamics of stress and coping.

[Suzy Torti, Ph.D.](#)

*Professor*

**Research Interest:** Regulation of iron metabolism and the relationship between iron and cancer.

[Duygu Ucar, Ph.D.](#)

*Assistant Professor*

**Research Interest:** Developing computational models to take advantage of existing datasets to study the dynamics and mechanisms of transcriptional gene regulation and propose testable hypotheses.

[George Weinstock, Ph.D.](#)

*Professor*

**Research Interest:** DNA Metabolism in bacteria and phages.