1974 - Biomedical Engineering Program with UT-Southwestern Med Center Dallas

2005 - Bioengineering Dept. offering BS, MS, PhD & five-year dual degrees in either Biology, Chemistry, or Physics and MS in Biomedical Engineering

2015 - 229 undergraduate, 117 MS, & 55 PhD students from all over the world

Research at UTA Bioengineering

- Respiratory and anesthesia device
- Neural engineering
- Regenerative medicine
- Biomedical optics
- Vascular Stent
- Peripheral nerve regeneration
- Artificial organs
- Biomaterials
- Nanomedicine
- Brain imaging
- Tissue engineering
- Nanotechnology
- Tissue engineering
- Neural engineering
- Regenerative medicine
- Biomedical optics
- Vascular Stent
- Peripheral nerve regeneration
- Artificial organs
- Biomaterials
- Nanomedicine
- Brain imaging
- Tissue engineering
- Nanotechnology
Research Projects

- Nanoparticles, & injectable hydrogel drug delivery systems to treat cancers, cardiovascular diseases, & lung disorders.
- Nanocomposite scaffolds as skin grafts for burn treatment.
- Vascular tissue engineering to enhance endothelialization in situ.

Kytai Nguyen, Ph.D.
Prof – Bioengineering

knguyen@uta.edu

Research Projects

- “Cancer trap” to combat metastatic cancers.
- Microscaffolds to treat osteoarthritis.
- Optical imaging probes to diagnose inflammation & cell response.
- Autologous stem cells-mediated tissue regeneration.

Liping Tang, Ph.D.
Prof – Bioengineering

ltang@uta.edu

Research Projects

- Novel biodegradable elastomers for tissue repair.
- Decellularized biological materials for tissue engineering and regeneration.
- Nanoscale materials for drug delivery and tissue repair.

Yi Hong, Ph.D.
Asst. Prof - Bioengineering

yihong@uta.edu
Research Projects

- High-throughput cancer drug screening (migration & viability)
- Neurophotonics focusing on controlled neuronal outgrowth & cancer cell migration
- Optogentic enabled vision restoration
- Bioelectronic medicine & Neuroengineering

Young-tae Kim, Ph.D.
Associate Prof - Bioengineering
ykim@uta.edu

Michael Cho, Ph.D.
Prof & Chair - Bioengineering
michael.cho@uta.edu

Research Projects

- Stem cell tissue engineering to advance regenerative medicine
- Development of predictive models to forecast and manipulate the fate of stem cells, including inducible pluripotent stem cells
- Engineering testbeds to identify the potential mechanisms of blast-induced traumatic brain injury

Vision restoration  Bioelectronic medicine

Adipogenesis (left)  Chondrogenesis (right)
Dynamics of blast pressure waves
Baohong Yuan, Ph.D.  
Assoc. Prof. - Bioengineering  

Research Projects  
- Ultrasound switchable fluorescence for deep tissue super resolution imaging for early cancer detection  
- Cancer stem cell imaging  
- Cancer treatment assessment  
- In vivo evaluation of implanted tissue scaffold  

Depth: ~30 mm; Resolution: < 100 microns  

George Alexandrakis, Ph.D.  
Assoc. Prof. - Bioengineering  

Research Projects  
- Assessment of rehabilitation outcomes in children with Cerebral Palsy by functional Near-Infrared Spectroscopy (fNIRS) imaging.  
- FNIRS imaging-guided electrical brain stimulation to personalize stroke rehabilitation.  
- Microscopy methods to enable quantification of DNA repair kinetics after radiation or chemotherapy.  

Imaging brain function with near-infrared light using optical fibers  

Live cell microscopy lab