

**HANDE DEMIRKIRAN**  
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**Objective**

- To obtain a material science and engineering research position preferably bioceramic materials synthesis and characterization that focuses on materials development and allows using my knowledge on materials processing and characterization.

**Education**

2004 – 2009                      **Ph.D. in Material Science and Engineering,**  
University of Texas at Arlington  
GPA: 3.31

2001 – 2003                      **M.S. in Metallurgical & Materials Engineering**  
Istanbul Technical University, Istanbul, TURKEY  
GPA: 3.22

1997 – 2001                      **B.S. in Metallurgical & Materials Engineering,**  
Yıldız Technical University, Istanbul, TURKEY  
GPA: 3.01

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**Research and Academic Experience**

University of Texas at Arlington:

2005 – 2009                      **Ph.D. Research Project:** Synthesis and Evaluation of Bioceramics for Orthopedics and Tissue Culture Application

2004 – 2009                      **Graduate Teaching Assistant,** Materials Science & Engineering

- *Fall'08 – 2009*                      **Training new graduate students** for various materials characterization instruments such as SEM-EDS, XRD, FT-IR, Nano-Indenter, Digital Optical Microscopy, and Sputtering System
- *Summer'04 – Summer'09*                      **Teaching Materials Science Laboratory for Mechanical and Aerospace Undergraduate Students** (Tentative Course Topics: X-Ray Diffraction, Binary Phase Diagrams, Re-crystallization of Cold Worked Brass, Jominy End Quench Test, Tensile Testing, and Composite Wet Lay-up).

Istanbul Technical University:

2001 – 2003                      **M.S. Research & Thesis:** “The processing and characterization of bioglass reinforced hydroxyapatite composites”, Istanbul Technical University (ITU) Institute of Science & Technology, 2003

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**Professional Skills**

### Characterization and Measurement Techniques:

- Scanning Electron Microscopy (SEM) coupled with Energy Dispersive Spectroscopy (EDS)
- X-ray Diffraction (XRD)
- X-ray Adsorption Near Edge Spectroscopy (XANES)
- Fourier Transform Infra Red (FT-IR)
- Ultraviolet Visible Spectroscopy (UV-VIS)
- Mechanical Testing Systems (Tensile and Compression)
- Nano-Mechanical Testing (Nano Indentation)
- Transmission Electron Microscopy (TEM)

### Efficient in:

- Microsoft Office
  - OriginPro8
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### Professional Trainings

- Workshop on Fundamental Aspects of Tissue Culture; Patricia Valerio, Federal University of Mina, Dept. of Biological Science Dept. Brazil; Gültekin Goller, Metallurgical & Materials Engineering Dept., Hakan Bernek Dept. of Molecular Biology, June-2003
  - Leadership Training at Allerton Conference Center, Champaign, IL; A six day leadership training program provided through a partnership with The LeaderShape® Institute, July-2008
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### Publications

- Ph.D. research publications are in progress.
- **Demirkıran, H.**; Hu, Y.; Zuın, L.; Aswath, P., “XANES study of Bioglass®45S5 added hydroxyapatite bioceramics”, Canadian Light Source, Inc., Activity Report, 2008
- Oktar, F.N.; Goller, G.; Ozyegin, L.S.; Erkmen, E.Z.; Toykan, D.; **Demirkıran, H.**; Haybat, H., “A promising load carrier grafting material: Sintered enamel hydroxyapatite bodies”, Key Engineering Materials, v.264-268, n.III, pg: 1957-1960, Euro Ceramics VIII, 2004
- Oktar, F.N.; Genc, Y.; Goller, G.; Erkmen, E.Z.; Ozyegin, L.S.; Toykan, D.; **Demirkıran, H.**; Haybat, H., “Sintering of synthetic hydroxyapatite compacts”, Key Engineering Materials, v.264-268, n.III, pg: 2087-2090, Euro Ceramics VIII, 2004

- Goller, G.; Oktar F.N.; **Demirkıran, H.**; et al. “Sintering effects on mechanical properties of bioglass reinforced hydroxyapatite composites”, Key Engineering Materials, v.240, n.2, pg: 939-942, 2003
  - Goller, G.; **Demirkıran, H.**; Oktar, F.N.; Demirkesen, E., “Processing and characterization of bioglass reinforced hydroxyapatite composites”, Ceramics International, v.29, n.6, pg: 721-724, 2003.
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### **Instructional Presentations**

- **Demirkıran, H.**; Mohandas, A.; Dohi, M., Nguyen, K.; Aswath, P.; “In vitro response of sodium calcium phosphate surfaces to growth and proliferation of bone marrow stromal cells”; TMS 2008 137th Annual Meeting and Exhibition, 2008
  - **Demirkıran, H.**; Fuentes, A.; Nguyen, K.; Aswath, A.; “Physical mechanical and in-vitro characterization of Bioglass®-hydroxyapatite bioceramics”, TMS 2007 136th Annual Meeting and Exhibition, 2007
  - **Demirkıran, H.**; “Sintering effects on mechanical properties of bioglass reinforced hydroxyapatite composites:”, Bioceramics 15, 15th International Symposium on Ceramics in Medicine, Sydney, Australia, December 4th-8th, 2002.
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### **Affiliations and Academic Service**

*Spring'07 – Fall'08* President, American Society of Materials, University of Texas at Arlington Chapter (ASM-UTA)

*July'07 & July'08* Organizer, ASM Materials Education Foundation-UTA Materials Camp for middle high and high school students

*April'08* Organizer, UTA-UNT Student Symposium sponsored by ASM International®North Texas Chapter and ASM-UTA Student Chapter

*Present-Nov. '07* Member, Joint Council of Engineering Organizations at University of Texas at Arlington (JCEO)

*Present-Jan. '05* Member, Material Advantage

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### **Honors and Awards:**

- 2008 and 2009 Carl D. Wiseman Service Award, Department of Material Science and Engineering, University of Texas at Arlington
  - 2008 Arthur E. Focke LeaderShape Award, ASM Materials Education Foundation (One of the six award recipients in worldwide each year)
  - 2007-2009 STEM Doctoral Fellowship, University of Texas at Arlington
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**References:**

▪ **Dr. Pranesh B. Aswath,**

Professor, Materials Science and Engineering, UT Arlington, Arlington, TX – 76019  
Tel: (817) 272-7108, Fax: (817) 272-2538, Email: aswath@uta.edu

▪ **Dr. Roger Goolsby**

Professor and M.E. Graduate Advisor, Materials Science and Engineering & Mechanical and  
Aerospace Engineering, UT Arlington, Arlington, TX – 76019  
Tel: (817) 272-2006, Fax: (817) 272-2538, E-mail: goolsby@uta.edu

▪ **Dr. Kytai Truong Nguyen**

Assistant Professor, Bioengineering, UT Arlington, Arlington, TX – 76019  
Tel: (817) 272-2540, Fax: (817) 272-2251, E-mail: knguyen@uta.edu