# Muhammet Alparslan (Alp) YARADANAKUL, Ph.D.

**EDUCATION**

**Texas A&M University, College Station, Texas**
Asst. Lecturer & Research Engineer in **Mechanical Engineering**, Jan. 2002 – May 2003

**Southern Methodist University, Dallas, Texas**
PhD in **Electrical Engineering**, GPA 3.95 Aug. 2002
Dissertation: Micromachined Room Temperature Infrared Detector Fabrication and Characterization on a Flexible Substrate.

**Bogazici University (Formerly Robert College), Istanbul, Turkey**
Master of Science in **Physics,** June 1996
Dissertation: Determination of the Optical Constants of Chalcogenide Thin Films, Using Fiber Optic Technique.

**Bogazici University, Istanbul, Turkey**
Bachelor of Science in **Physics**, June 1994

**EXPERIENCE**

**Turquoise Council of Americans and Eurasians,**
**Regional Director for DFW Metroplex,** October 2012 - Present
- Responsible for Political and Business Network to promote relations between USA and the region spanning from Balkans, through Turkey and Middle Asian Turkuc Countries
- Develop relations with State and Federal legislatures to promote international relations
- Help organize US-Azerbaijan Convention in D.C. and Baku with more than 50 Federal Legislatures in attendance
- Create internship opportunities for students in legislative offices

**Texas Turkish American Chamber of Commerce,** October 2010 - Present
- Used patch clamp technique to investigate membrane transport mechanism
- Designed Live Cell Imaging experiments with Confocal System
- Performed live cell and membrane lawn imaging to study lipid signaling and diffusion
- Measured capacitance and current response of live cells to drugs

**UT Southwestern Medical Center, Post-Doctoral Researcher**, May. 03-Oct. 09
- Used patch clamp technique to investigate membrane transport mechanism
- Designed Live Cell Imaging experiments with Confocal System
- Performed live cell and membrane lawn imaging to study lipid signaling and diffusion
- Measured capacitance and current response of live cells to drugs

**Texas A&M University, Research Engineer**, Jan. 01-May 03
- Authored proposals submitted to DARPA, USAF, Navy, Army and NASA, on fabrication of IR Detectors on flexible substrate, Kapton
- Taught Materials and Manufacturing Processes Lab Session (MEEN 360)
- Responsible for establishing Nanotechnology Lab for ME/Phys Department
- Senior Researcher, Microfluidic Device Based Capture and Detection of Microbial Contaminants from Recycled Water, proposal submitted to NASA

**Southern Methodist University, Graduate Research Associate**, May 98-Dec. 2001
- Fabricated first known micromachined bolometers and pyroelectric IR detectors on Flexible substrate, Kapton
  Silicon substrate (Projects funded by ARO, NASA-Langley, NSF)
- Acquired experience of micromachining techniques
- Measured and analyzed optical, electrical and noise properties of microbolometers
- Utilized thin film deposition techniques: RF Sputtering, Pulsed Laser Deposition,
- Fabricated MOSFETs and diffraction gratings
- MEMS, Photolithography, Etching techniques, SEM, Optical spectroscopy

**Bogazici University, Graduate Research Associate** July 1994-98

- Designed and implemented a Fiber Optics Technique for optical characterization of thin film semiconductor materials
- Developed Fiber Optics temperature and pressure sensors
- Taught advanced physics laboratory and discussion sections to students

**Blinn College, College Station, TX, Part-Time Faculty** June 2002-present

- Taught College Physics I and II in Summer 2002 and Fall 2002
- Physics Representative of Science Club

**Harmony Science Academy, TX, (K-12), Academic Advisor** June 2002-present

- Authored grants submitted to TEA and private companies
- Monitored science projects

**SKILLS**

- Extensive Clean Room and Device Microfabrication Experience
- Software : MS Office Applications, Mathematica, Kaleidagraph, Origin, LabView
- Lab Automation, Computer Hardware
- Good Communication and Leadership Skills
- Language : Turkish, English (Fluent), German and Flemish at introductory level

**HONORS and AWARDS**

- Outstanding Graduate Student Award, SMU, School of Engineering, 2000-2001
- Graduate Study Scholarship, SMU Electrical Engineering Department, 1998-2001
- Graduate Study Abroad Scholarship, Turkish Ministry of Education, 1998
- Ranked in top 1% on Turkish National University Matriculation Exam, 1989

**PUBLICATIONS**

**Journal Publications:**

- "Massive calcium–activated endocytosis without involvement of classical endocytic proteins," Vincenzo Lariccia, Michael Fine, Simona Magi, Mei-Jung Lin, Alp Yaradanakul, Marc C. Llaguno, and Donald W. Hilgemann, 137(1), p. 111, 2010
- "Massive Ca-induced membrane fusion and phospholipid changes triggered by reverse Na/Ca exchange in BHK fibroblasts," Yaradanakul A, Wang TM, Lariccia V, Lin MJ, Shen C, Liu X, Hilgemann DW, *J Gen Physiol*, 132(1), pp. 29-50, 2008
- "Dual control of cardiac Na/Ca exchange by PIP2: Electrophysiological analysis of direct and indirect mechanisms," Alp Yaradanakul, Siyi Feng, Chengcheng Shen, Vincenzo Lariccia, Mei-Jung Lin, Jinsong Yang, Kang T. M., Ping Dong, Helen L. Yin, Joseph P. Albanesi and Donald W. Hilgemann, Journal of Physiology, 582, pp 991-1010, 2007
- "Unrestricted Diffusion of Exogenous and Endogenous $PIP_2$ in Baby Hamster Kidney and Chinese Hamster Ovary Cell Plasmalemma," Alp Yaradanakul and Donald W. Hilgemann, Journal of Membrane Biol., 220, pp. 53-67, 2007
- "Molecular Control of Cardiac Sodium Homeostasis in Heatlh and Disease," D. W. Hilgemann, A. Yaradanakul, Y. Wang, and D. Fuster, J Cardiovasc Electrophysiol., 17, Suppl 1, pp. S47-56, 2006.
- "Uncooled Infrared Microbolometers on a Flexible Substrates," A. Yaradanakul, D. P. Butler and Z. Çelik-Butler, IEEE Trans. on Electron Devices, 49, pp. 930-933, 2002.
- "Uncooled Multi-Mirror Broadband Infrared Microbolometers, " M. Almasri, Z. Çelik-Butler, D. P. Butler, A. Yaradanakul and Ali Yildiz, IEEE Journal of Microelectromechanical Systems, 11, pp. 528-535, 2002.
- "Room Temperature Semiconducting YBaCuO Microbolometers with Ti Absorber," A. Yaradanakul, Z. Celik-Butler, and D. P. Butler, International Journal of Advanced Manufacturing, 3, pp. 13-27, 2000.
- "Experimental Determination of the Thermo-Optic Properties of Zirconium Dioxide Coatings," M. N. Inci, G. Gulsen, M. A. Yaradanakul, Z. Kaplan, G. Aktas, J. Phys. D: Appl. Phys., 30, pp. 517-521, 1997.
- "Characterization of The Optical Constants of $As_2Se_3$ Thin Films Using Fibre Optic Technique," M. N. Inci, M. A. Yaradanakul, G. Gulsen, G. Aktas, Infrared Physics and Technology, 38, pp. 227-232, 1997.

**Refereed Conference Papers:**

- "Infrared Sensors on Flexible Substrates for Smart Skin," Z. Çelik-Butler, D. P. Butler, A. Yaradanakul, A. Yildiz, SPIE Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls (AEROSENSE): Infrared Detectors and Focal Plane Arrays VII, Orlando, FL, April 1-5, 2002, SPIE, vol. 4721, pp., 2002.
- "YBaCuO Microbolometers for Broad-band IR Sensing," Z. Çelik-Butler, D. P. Butler, M. Almasri, A. Yaradanakul, A. Yildiz, SPIE Annual International Symposium on Aerospace/Defense Sensing, Simulation, and Controls (AEROSENSE): Infrared Technology and Applications XXVII, Orlando, FL, April 16-20, 2001, SPIE, vol. 4369, pp. 264-273, 2001.
- "Room Temperature Infrared Microbolometers on a Flexible Substrate," A. Yaradanakul, Z. Çelik-Butler and D. P. Butler, TEXMEMS III, Dallas, TX, June, 2001.
- "Uncooled Semiconducting YbaCuO Microbolometers for Visiable through FIR Detection," M. Almasri, D. P. Butler, Z. Çelik-Butler, A. Yildiz and A. Yaradanakul, TEXMEMS III, Dallas, TX, June 7th, 2001.
- "Fabrication of Micromachined Devices on Flexible Substrates," A. Yaradanakul, A. Yildiz, Z. Celik-Butler, and D. P. Butler, Emerging Technologies Symposium on Broad Band Communications for the Internet Era, Richardson, TX, September, 2001.
- "Room Temperature Microbolometers with Ti Absorber," Z. Çelik-Butler, A. Yaradanakul, and D. P. Butler, TEXMEMS II, Dallas, TX, May 16th, 2000.
- "Uncooled Microbolometers Based on Semiconducting YBaCuO for Broad-Band IR Radiation Detection," D. P. Butler, Z. Çelik-Butler, M. Almasri, A. Yaradanakul, A. Yildiz, NanoTech 2000, Houston, TX, Sept. 24-28, 2000.
- "Determination of the Thermo-Optic Coefficients of $TiO_2$ Thin Films with Optical Fibres," G. Gulsen, A. Yaradanakul, G. Aktas, M. N. Inci, Balkan Physics Letters, vol. 7, pp. 229-235, 1999.
- "Determination of Optical Constants of Optoelectronic Materials Using Fiber Optic Techniques" M. N. Inci, A. Yaradanakul, G. Gulsen, Z. Kaplan, G. Aktas, Proc. of Int. Conference on Telecommunications, pp. 932-934, Istanbul, Turkey, 1996.

## ACTIVITIES

**Professional**

- Biophysical Society Member
- Society of General Physiologists Member
- IEEE Member, Electron Devices and Solid State Circuits Society Member
- American Physical Society Member
- Workshop on Condensed Matter Physics, Trieste, Italy, June 1996
- Summer Research on Optical Characterization of Semiconductors, (Scientific and Technical Research Association), Gebze, Turkey, 1996
- Low Dimensional Semiconductors Workshop, Istanbul, Turkey, September 1994

**Personal**

- Founding Member of UTSW Medical Center Post-Doc Association (UTSW-PDA)
- UTSW Physiology Department Post-Doc Representative to the UTSW-PDA
- SMU Student Senate – International Senator
- SMU Student Senate – Research & Development and Scholarship Committee
- SMU Student Senate – Founder of Academic Enhancement Committee