

## CURRICULUM VITAE

Mehdi Shadaram. Ph.D., P.E.  
Associate Dean of Engineering for Student Affairs and Policies  
Briscoe Distinguished Professor  
Professor of Electrical and Computer Engineering

University of Texas at San Antonio  
One UTSA Circle  
College of Engineering  
San Antonio, Texas 78249

210-458-4431 (Voice)  
210-601-4094 (Cell)  
210-458-5558 (Fax)

[mehdi.shadaram@utsa.edu](mailto:mehdi.shadaram@utsa.edu)

---

**TABLE OF CONTENTS**

<b>I. GENERAL INFORMATION .....</b>	<b>4</b>
A. PERSONAL DATA.....	
B. EDUCATION .....	
C. ACADEMIC APPOINTMENTS .....	
D. ACCOMPLISHMENTS AS ADMINISTRATOR .....	
At UTSA - Associate Dean, 2006 – present.....	
At UTSA – Chairman, 2003 – 2006 .....	
E. OTHER EMPLOYMENT .....	
F. CONSULTING.....	
G. CERTIFICATION AND LICENSURE .....	
H. HONORS AND AWARDS.....	
<b>II. TEACHING .....</b>	<b>8</b>
A. CLASSROOM/LABORATORY.....	
B. INSTRUCTIONAL DEVELOPMENT .....	
1. <i>Courses Developed</i> .....	
<i>At the University of Oklahoma</i> .....	
2. <i>Media and Software Developed</i> .....	
C. PH.D. DISSERTATIONS AND MASTERS’ THESES DIRECTED.....	
D. MEMBERSHIP ON GRADUATE COMMITTEES .....	
E. POSTDOCTORAL FELLOWS SUPERVISED .....	
F. UNDERGRADUATE STUDENTS (RESEARCH) SUPERVISED.....	
<b>III. RESEARCH .....</b>	<b>15</b>
A. BIBLIOGRAPHY .....	
1. <i>Books/Book Chapters</i> .....	
2. <i>Journal Papers (refereed full length)</i> .....	
3. <i>Conference Papers</i> .....	
5. <i>Other Articles</i> .....	
B. LECTURES, SEMINARS.....	
1. <i>Scientific Lectures, Seminars</i> .....	
2. <i>Other Lectures, Seminars, Briefings, Short courses</i> .....	
C. AREAS OF RESEARCH INTEREST .....	
D. RESEARCH SUPPORT .....	
1. <i>National/International</i> .....	
2. <i>State</i> .....	
3. <i>Companies</i> .....	
4. <i>Other</i> .....	
5. <i>Research Associates</i> .....	
<b>IV. SERVICE.....</b>	<b>33</b>
A. PROFESSIONAL ACTIVITIES .....	
1. <i>Current Professional and Scientific Organizations/Societies</i> .....	
Institute of Electrical and Electronics Engineers (IEEE), Senior Member, Communication Society and Laser and Electro-Optic Society (Since 1982) .....	

---

Optical Society of America (OSA), Member, (Since 1984).....	
Society of Photo-Optical Instrumentation Engineers (SPIE), Member, (Since 1984) .....	
American Society for Engineering Education (ASEE), Member, (Since 2004) .....	
2. <i>Past and Current Positions and/or Offices Held in Professional Organizations</i> .....	
3. <i>Editor/Editorial Board Member</i> .....	
4. <i>International Conference/Meeting/Symposium Organizer/Chairmanship</i> .....	
5. <i>Session Chair/Organizer</i> .....	
6. <i>Reviewer for Journals</i> .....	
7. <i>Review Panels for Grants</i> .....	
8. <i>Continuing Education Seminars Given</i> .....	
9. <i>Community Service</i> .....	
B. COMMITTEES .....	
1. <i>Department</i> .....	
At the University of Texas at San Antonio.....	
2. <i>College of Engineering</i> .....	
3. <i>University</i> .....	
C. ADMINISTRATIVE RESPONSIBILITIES .....	
1. <i>Department</i> .....	
2. <i>College</i> .....	
3. <i>Staff Currently Supervised (not including students)</i> .....	
<b>V. OTHER INFORMATION .....</b>	<b>38</b>
A. PATENTS PENDING/ISSUED .....	
B. MEDIA COVERAGE .....	
C. OTHER .....	
1. <i>Management/Administrative Training</i> .....	
2. <i>Participation in Workshops, Short Courses, and Meetings</i> .....	

## I. GENERAL INFORMATION

### A. *Personal Data*

Date of Birth: April 19, 1954  
Citizenship: USA  
Marital Status: Married, one child

### B. *Education*

Ph.D., Electrical Engineering, University of Oklahoma, Norman, OK, 1984  
Dissertation Title: Optical Frequency Domain Reflectometry.

M.S., Electrical Engineering, University of Oklahoma, Norman, OK, 1980  
Thesis Title: Sensitivity of Single-Mode Optical Fiber Splices to Small Vibrations.

B.S., Electrical Engineering, University of Science and Technology, Tehran, 1976

### C. *Academic Appointments* (chronological with latest first):

#### **At the University of Texas at San Antonio (UTSA)**

Associate Dean for Student Affairs and Policies, College of Engineering (2006 – Present)

Founding Director, Center for Excellence in Engineering Education (2008 – present)

Briscoe Distinguished Professor, Department of Electrical and Computer Engineering (2003 – Present)

Chairman, Department of Electrical and Computer Engineering (2003 – 2006)

Founder and Coordinator, Photonics and Communications Research Laboratory, Department of Electrical and Computer Engineering (2004 – Present)

#### **At the University of Texas at El Paso (UTEP)**

Chairman, Department of Electrical and Computer Engineering (1999 - 2003)

Schellenger Endowed Professor, Department of Electrical and Computer Engineering (1999 – 2003)

Director, Ph.D. Program in Computer Engineering, (1999 - 2003)

Director, Research Experience for Undergraduates Program (1998 - 2003)

Senior Executive Preceptor, the Department of Internal Medicine of the Texas Tech University Health Sciences Center at El Paso (2000 - 2003)

Contributing Faculty, Material Research Institute (1991 – 2003)

Director, Fiber Optic Research Laboratory, Department of Electrical and Computer Engineering (1985 – 2003)

Faculty Associate, Material Research Center of Excellence (1991 – 2001)

Professor (tenured), Department of Electrical and Computer Engineering (1997 – 1999)

Associate Professor (tenured), Department of Electrical and Computer Engineering (1990 – 1997)

Assistant Professor (tenure track), Department of Electrical and Computer Engineering (1984 – 1990)

**At the University of Oklahoma**

Instructor, School of Electrical Engineering (September 1983 – August 1984)

Teaching Assistant, School of Electrical Engineering (September 1979 – May 1982)

***D. Accomplishments as Administrator***

**At UTSA - Associate Dean, 2006 – present**

Founded the Center for Excellence in Engineering Education (CE<sup>3</sup>)

Developed new undergraduate admission criteria for the College of Engineering

Secured more than \$1.6 M in funding through educational grants to improve retention and graduation rates

Established partnership with some area schools and annual workshops for the math and science teachers

Organized summer immersion camps for area students

Developed a plan for student success

Led the college for the Accreditation Board for Engineering and Technology (ABET) and the Southern Association of Colleges and Schools (SACS) accreditations

**At UTSA – Chairman, 2003 – 2006**

Department's total funding grew by more than 100%, from \$1.8 M in September 2003 to about \$3.7 M in May 2006

A successful ABET visit in October 2004 (next visit is in 2010)

Established a new MS program in Computer Engineering in 2005

Installed an Eta Kappa Nu Chapter (Kappa Upsilon), the Electrical Engineering honor society, in 2004

Created a new EE Department Advisory Council Committee in 2004

Recruited one full, one associate, three tenure track, and two research professors

Initiated and defined methodologies for evaluating Program Educational Objectives and assessing Program Outcomes

Added one new administrative assistant and one new account technician to the ECE Staff

**At UTEP – Chairman, 1999-2003**

A successful ABET visit in October 2001 (the EE program was accredited for six years)

Department gained more than \$1M in new endowments (scholarship, professorship, equipment and library)

The enrollment grew at all levels: Ph.D. +100%, MS +60%, BS +20%.

External funding grew by more than 40%

Improved partnerships with external constituents drastically, particularly with the Texas Instruments, the ECE Department received more than \$2.4M from Texas Instruments Foundation

Recruited six new professors with expertise in critical areas, and three new staff members and nobody left the department

Established two very essential and productive advisory boards, professional (13 members) and student (8 members) advisory boards

Established numerous committees to oversee all processes such as evaluation of Program Educational Objectives and assessment of Program Outcomes, course outcomes, etc

Improved the exposure of the department to the outside communities through the establishment of the ECE Newsletter, new web pages, recruitment efforts, open houses, presentations, etc

***E. Other Employment***

Faculty Fellow, NAVY/ASEE Summer Faculty Fellowship Program, Naval Command, Control and Ocean Surveillance Center, San Diego, California (1994 - 1999)

Accomplishments include the analysis and performance evaluation of different modulated fiber optic links.

Faculty Fellow, NAVY/ASEE Summer Faculty Fellowship Program, Naval Air Warfare Center-Aircraft Division, Warminster, Pennsylvania (1993)

Accomplishments include development of a technique for increasing the bandwidth of high performance electrical backplanes.

Associated Western Universities Faculty Fellow, Jet Propulsion Laboratory, Pasadena, California (1990 and 1991)

Accomplishments include the design and implementation of a feedback system for stabilization of standard frequencies in fiber optic links.

Project Engineer, Ra-Nav Laboratories, Oklahoma City

Responsibilities included designing and testing electronic circuits and assisting other engineers with technical aspects of various proposals and contracts (June 1982- August 1983)

### ***F. Consulting***

Texas Management Associates, Inc., San Antonio, TX, arranged and taught training workshops, 2004-2006.

SpecPro, Huntsville, Alabama, arranged and taught training workshops, 2004-2006.

LaSys Inc., Las Cruces, NM, design of fiber optic sensor devices, 2001.

YTC America, Inc. a subsidiary of Yazaki Corporation, Camarillo, California, fiber optic gas sensors, 1999.

Fadduol, Glasheen and Valles, P.C., Lubbock, Texas, safety standards for distribution of power lines, 1998

McMahon vs. Masuda and Kaplan trial at the Superior Court of the State of California in Santa Clara, expert witness, 1997.

Philips Components, El Paso, Texas, power-rating calculation of DC power supplies for TV monitors, 1994.

Powerine Oil Company, Santa Fe Springs, California, implementation of a fiber optic LAN system, 1994.

Texas Instruments, Midland, Texas, taught courses in fiber optic communications, 1989-1991.

### ***G. Certification and Licensure***

Registered Professional Engineer (P.E.): State of Texas #64546  
Secret SBI Clearance, 1993, Inactive

## H. Honors and Awards

Endowed Briscoe Distinguished Professor at UTSA, since 2003  
 Certificate of Appreciation, US Air Force Mentor-Protégé Program, July 2007  
 Certificate of Appreciation, IEEE Communications Society, 2005  
 Endowed Schellenger Professor at UTEP, (1999 – 2003)  
 Marquis Who's Who in America, since 2000  
 Marquis Who's Who in the World, since 1998  
 C. R. Nichols Award for teaching excellence and outstanding service to the students of the  
   Electrical Engineering Department of The University of Texas at El Paso, 1993  
 NASA Monetary Award for contribution to the National Space Program, 1993  
 American Society for Engineering Education Faculty Fellowship Award, Summers 1993  
   through 1999  
 Marquis Who's Who in Science and Engineering, since 1991  
 Associated Western Universities Faculty Fellowship Award, Summers 1990 & 1991  
 Plaque of Appreciation for serving as the Chair of IEEE El Paso-Las Cruces section, 1988-  
   1990  
 Monetary Award from the Office of the Graduate School at the University of Texas at El Paso  
   for advising the outstanding thesis in 1989  
 Member, Eta Kappa Nu, Electrical Engineering Honor Society

## II. TEACHING

### A. Classroom/Laboratory

#### *UTSA*

<u>Date</u>	<u>Course</u>	<u>Level</u>
Fall 2008	EE 6383 High Speed Optical Comm	G
Spring 2008	EE 5283 Adv Fiber Optic Com	G
Fall 2007	EE 4963 Fiber Optic Comm	U
Fall 2006	EE 5283 Adv Fiber Optic Comm	G
Fall 2005	EE 5283 Coding and Error Corr	G
Spring 2005	EE 5283 High Speed Networks	G
Fall 2004	EE 4953 Fiber Optic Comm	U
Spring 2004	EE 5283 Adv Fiber Optic Comm	G

#### *UTEP*

<u>Date</u>	<u>Course</u>	<u>Level</u>
Spring 2003	EE 4361 Fiber Optic Comm	U
Fall 2002	EE 5332 Coding and Error Correction	G
Spring 2002	EE 5336 Advanced Fiber Optic Comm	G
Fall 2001	EE 4388 Digital Communications	U
Spring 2001	EE 4361 Fiber Optic Comm	U
Fall 2000	EE 5390 Coding and Error Correction	G
Spring 2000	EE 5336 Adv Fiber Optic Comm	G
Spring 1999	EE 3590 Coding and Error Correction	G
Spring 1999	EE 3251 Networks I	U
Fall 1998	EE 3590 High Speed Fiber Optic Nwks	G

Fall 1998	EE 3251 Networks I	U
Spring 1998	EE 3536 Adv Fiber Optic Comm	G
Fall 1997	EE 3590 Coding and Error Correction	G
Fall 1997	EE 3340 Electronics II	U
Spring 1997	EE 2310 EE Laboratory	U
Spring 1997	EE 3461 Fiber Optic Communications	U
Fall 1996	EE 3523 Communication Theory	G
Spring 1996	EE 3590 High Speed Fiber Optic Nwks	G
Spring 1996	EE 3441 Communication Systems	U
Fall 1995	EE 3536 Adv Fiber Optic Comm	G
Spring 1995	EE 3251 Networks I	U
Fall 1994	EE 3461 Fiber Optic Comm	U
Fall 1994	EE 3523 Communication Theory	G

## ***B. Instructional Development***

### *1. Courses Developed (Course number, title, date)*

#### ***At the University of Texas at San Antonio***

##### Undergraduate Courses

EGR 1323, Physics with Engineering Applications for CPS Energy Fellows Program, Fall 2006

EGR 1313, Calculus with Engineering Applications for CPS Energy Fellows Program, Fall 2006

EE 1323, Introduction to Electrical Engineering Profession, Spring 2006

EE 4693, Introduction to Fiber Optic Communication, Fall 2004

STA 3533, Probability and Random Processes, Fall 2006

##### Graduate Courses

EE 5283, Topics on Coding and Error Correction, Spring 2006

EE 6383, Advanced Topics on High Speed Links and Networks, Spring 2005

EE 5473, Advanced Fiber Optic Communications, Spring 2004

#### ***At the University of Texas at El Paso***

##### Undergraduate Courses

EE 3251, Networks I, Spring 1995

EE 3339, Electronics I, Fall 1984

EE 3340, Electronics II, Fall 1985

EE 3441, Communication Systems, Fall 1998

EE 3460, Digital Communications, Spring 1998

EE 3461, Fiber Optic Communications, Spring 1986

EE 2310, Electronics Laboratory, Fall 1985

EE 3421, Optoelectronics, Fall 1987

EE 2411, Electronics Laboratory, Summer 1985

##### Graduate Courses

EE 5336, Fiber Optic Communication Systems, Fall 1985

EE 5395, Special Topics on High Speed Fiber Optic Links, Spring 1996

EE 5323, Communication Theory, Fall 1987  
EE 5323, Signal Detection and Estimation, Spring 1988  
EE 5332, Coding and Error Correction, Fall 1989

***At the University of Oklahoma***

Undergraduate Electrical Engineering Laboratory I

***2. Media and Software Developed***

ABET based visual pedagogy Probability and Random Processes Electronic Text (STA 3533 course). This work is the result from a grant supported by the Department of Education: Grant No. P120A050003

ABET based visual pedagogy Introduction to Electrical Engineering Electronic Text (EE 1323 course). This work is the result from a grant supported by the Department of Education: Grant No. P120A050003

Electronic presentation of all lectures of EE 4693, Fiber Optic Communications, EE 5473, Advanced Fiber Optic Communications, and EE 6383, Advanced Topics on High Speed Optical Links and Networks.

***C. Ph.D. Dissertations and Masters' Theses/Projects Directed***

*Ph.D. Dissertations*

Chair with Akopian as Co-Chair, Ph.D. Dissertation Committee in Electrical Engineering, Catalin Lacatus, "Distributed codeword adaptation and power control in CDMA systems," (August 2008)

Chair, Ph.D. Dissertation Committee in Computer Engineering, John Medrano, "Dual stage optical multi-protocol label switching using out of band wavelength and code properties," (December 2005) (Technical Staff, the Proteus Corporation, White Sands Missile Range, New Mexico)

Chair, Ph.D. Dissertation Committee in Computer Engineering, Ahmed Musa, "Routing algorithm based on optical multi-protocol label switching using wavelength and code division multiplexing," (December 2005) (Head of Computer Engineering, Al-Hussein Bin Talal University, Maan, Jordan)

Chair, Ph.D. Dissertation Committee in Computer Engineering, John Alawneh, "Dynamic pipeline network optimization," (May 2002) (Executive Director, Technology Operations, Plano Independent School District, Plano, TX)

Chair, Ph.D. Dissertation Committee in Material Research Institute, Loren Espada-Castillo, "Analysis and fabrication of optical filters using variable index materials," (August 1999) (Technical Staff Member, Los Alamos National Laboratory, Los Alamos, NM)

Chair, Ph.D. Dissertation Committee in Computer Engineering, Virgilio Gonzalez-Lozano, "Performance analysis of cell switching in fiber-optic local area networks," (May 1999) (Assistant Professor at the University of Texas at El Paso, Electrical and Computer Engineering Department)

Chair, Ph.D. Dissertation Committee in Computer Engineering, Rolf Sassenfeld, "A dynamic hierarchical wavelength assignment algorithm for routing within ISDN networks," (May 1998) (Lecturer at the University of Texas at El Paso, Computer Science Department)

*Masters' Theses/Projects*

- Chair, MSEE Thesis, Sohel Karovalia, (Expected may 2009)
- Chair, MSEE Thesis, Fahad Khalil, (Expected May 2009)
- Chair, MSEE Thesis, Yousuf Rashid, (Expected December 2008)
- Chair, MSEE Thesis, Mir Faraz, "Effect of Four-wave Mixing on the Performance of WDM Systems," (December 2007)
- Chair, MSEE Thesis, Naresha Valleballi, "Time hopping impulse radios with optimal and sub-optimal receivers," (May 2007)
- Chair, MSEE Thesis, Jennifer Bratton, "Effect of ASE noise on M-QAM fiber optic link performance," (July 2006)
- Chair, MSEE Thesis, John Summerfield, "Characterization of MZ modulators for analog WDM fiber optic systems," (December 2005)
- Chair, MSEE Thesis Committee, Pushkar Chennu, "Performance evaluation of RF WDM fiber optic links with optical amplification," (December 2005)
- Chair, MSEE Thesis Committee, Cecil Thomas, "Analysis and measurement of RF phase noise in analog WDM fiber optic links," (December 2004)
- Chair, MSEE Thesis Committee, Velankar Yogesh, "Design and implementation of tapered optical fibers as optical filters for WDM applications," (July 2002)
- Chair, MSEE Thesis Committee, Md. Kaisar Rashid Khan, "Phase noise caused by optical amplification," (August 2001)
- Chair, MSEE Thesis Committee, Pritam Kabe, "Analysis of analog fiber optic links," (August 1999)
- Chair, MSEE Thesis Committee, Apurva N. Mody, "RF phase noise effect on the performance of QAM signals in fiber optic links," (May 1998)
- Chair, MSEE Thesis Committee, Nimesh Shah, "Stabilization of microwave fiber optic links using feedback technique," (May 1997)
- Chair, MSEE Thesis Committee, Fernando Garcia, "Chemical sensing with tapered optical fibers," (May 1997)
- Chair, MSEE Thesis Committee, Juan Martinez, "Application of variable index materials in fiber-optic chemical sensors," (May 1997)
- Chair, MSEE non-thesis option Committee, Mohammad Rizwan, (December 1996)
- Chair, MSEE Thesis Committee, Juan Manuel Cenicerros, "A technique for correcting phase noise in analog fiber-optic links," ( May 1996)
- Chair, MSEE Thesis Committee, Paul Arthur Bullock, "Design and performance evaluation of a fiber-optic sensor array," (December 1995)
- Chair, MSEE Thesis Committee, John Daniel Medrano, "A technique for maintaining high phase stability in analog fiber-optic links," (May 1995)
- Chair, MSEE Thesis Committee, Janet M. Burneff-Cuellar, "Signal processing with fiber-optic delay lines and electro-optic couplers," (December 1993)
- Chair, MSEE Project Committee, Pradhham Girish, "Congestion control in computer networks using intelligent control algorithm," (December 1993)
- Chair, MSEE Thesis Committee, Gonzalo Romero, "The development of a data acquisition and processing system for a fiber-optic sensor array," (July 1993)
- Chair, MSEE Thesis Committee, Nitin Okhade, "A real time algorithm for fractal analysis and its application to an early detection of epileptic seizures," (May 1993)
- Chair, MSEE Project Committee, Jayanthan Gnanenth, "Review of WDM fiber-optic networks," (May 1993)
- Chair, MSEE Thesis Committee, Rex O. Hendrix, "Polarization characterization of single-mode optical fibers under perturbation," (December 1992)

- Chair, MSEE Thesis Committee, Ketan Kishorb Shah, “A fractionally linear method to decrease window size in the case of congestion in computer networks,” (December 1992)
- Chair, MSEE Thesis Committee, Nabar Nilesh, “Methodology that combines neural and analytical,” (December 1991)
- Chair, MSEE Thesis Committee, Eugene Britto John, “The effect of input current pulse shape on FSK optical coherent communication system,” (December 1990)
- Chair, MSEE Thesis Committee, Massoud Abedian Borojenie, “The effect of source linewidth in fiber-optic gyro,” (December 1990)
- Chair, MSEE Thesis Committee, Anupam Goyal, “Evaluation of bit error rate performance of a binary FSK optical communication system,” (December 1990)
- Chair, MSEE Project Committee, Ajit Kumar, “Recent developments and applications of fiber optics in LANs,” (December 1990)
- Chair, MSEE Thesis Committee, Jawaid Ahmad, “Simulation of a graded-index optical fiber link,” (May 1990)
- Chair, MSEE Thesis Committee, Amin Solehjoui, “Application of fiber-optic polarization sensor in pavement instrumentation,” (May 1990)
- Chair, MSEE Project Committee, Faramarz Kianpour, “In-flight thrust measurement uncertainty analysis,” (May 1990)
- Chair, MSEE Thesis Committee, Jose Eduardo Chavez, “Effects of phase noise and frequency chirping on an optical binary coherent FSK system,” (August 1989)
- Chair, MSEE Thesis Committee, Andrew David Norte, “Optimum pulse transmission through single-mode optical fibers and low-pass filter filtering effects,” (December 1988)
- Chair, MSEE Project Committee, Charles E. Pulham, Jr., “Detection of multiple harmonically related sinusoids in non-stationary noise,” (August 1986)
- Chair, MSEE Thesis Committee, Ebrahim Afjei, “Design of an optical fiber pressure sensor using reflection device,” (May 1986)
- Chair, MSEE Thesis Committee, Ilwhan Oh, “Low-frequency vibration detection using microbend fiber-optic sensor: An experimental study,” (December 1985)

#### ***D. Membership on Graduate Committees***

##### *Ph.D. Dissertations*

- Member, Ph.D. Dissertation Committee in Biomedical Engineering, Kihak Lee, “Characteristics of single and dual optical fiber  $\beta^+$  probes for positron emission tomography study,” (August 2008)
- Member, Ph.D. Dissertation Committee in Electrical Engineering, Prasad Yadanapudi, “Multiuser ultra wideband communication systems,” (August 2007)
- Member, Ph.D. Dissertation Committee in Electrical Engineering, Madhusudhan Reddy Musku, “Game theoretic approach to quality of service and resource management in wireless systems,” (August 2007)
- Member, Ph.D. Dissertation Committee in Computer Engineering, Gustavo Jose Villalva, “Three-dimensional visualization and analysis of a dual disk resonator with dielectric misalignment and surface anomaly using edge finite elements,” (December 2001)
- Member, Ph.D. Dissertation Committee in Computer Engineering, Eulalio Rodriguez, “Nondestructive testing of composite plates by the acousto-ultrasonic method,” (August 1998)

##### *Masters' Theses/Projects*

- Member, MSEE Thesis Committee, Rama Kondadasu, "Performance analysis of ultra wideband communication system," (May 2005)
- Member, MSCE Project Committee, Sumankumar A Singh, "Simulation of circuit switched network using OPNET," (December 2002)
- Member, MSEE Thesis Committee, Gus Salem Shaheen, "Resonant frequencies, modes, and quality factors in a dielectric cylindrical resonator with a misaligned permittivity tensor," (May 2002)
- Member, MSEE Thesis Committee, Sathish Somanathan, "Analysis of bulk space charge in a SrS:Ce actefel device," (December 1997)
- Member, MSEE non-thesis option Committee, Peter Li, (May 1996)
- Member, MSEE Thesis Committee, Shivakumar V. Manganahalli, "Simple voice transfer protocol- It's design and implementation through sockets and UDP," (May 1994)
- Member, MSEE Thesis Committee, Gerardo Chaparro, "A computer vision system for the visual inspection of hall dies on ceramic substrates," (May 1994)
- Member, MSEE Thesis Committee, Kishore R. Moturi, "Protocol for deadlock algorithms in computer networks," (December 1992)
- Member, MSEE Thesis Committee, Prakash Nanasimhamurthy, "Application of intelligent control to congestion in computer networks," (December 1992)
- Member, MSEE Thesis Committee, Sunil J. Kamat, "Efficient spare allocation for restructurable VLSI RAM chips," (December 1992)
- Member, MSEE Thesis Committee, James David Britton, "Modification of dielectric-phosphor interface in alternating current thin film electroluminescent display devices," (July 1992)
- Member, MSEE Thesis Committee, Ramon Enriquez, "Design and simulation of switching power supplies," (May 1992)
- Member, MSEE Thesis Committee, Qin Xu, "Modeling of SrS:Ce a.c. thin film electroluminescent display devices," (May 1992)
- Member, MSEE Project Committee, Rolf Josef Sassenfeld, "The conversion of the financial service administration to the university fiber-optic network," (July 1991)
- Member, MSEE Thesis Committee, Gng Koon Tiang, "Simulation of multi-processor computer with shared data memory," (December 1990)
- Member, MSEE Thesis Committee, Muhammad Ali Ijaz, "A high speed CMOS FIFO memory circuit," (May 1990)
- Member, MSEE Project Committee, Jose' Marcos Gonzalez, "Implementation of a real time operating system for processing target positioning data," (May 1990).
- Member, MSEE Thesis Committee, Ketan N. Sanghrajka, "Active frequency compensation of integrated circuit attenuators," (May 1990)
- Member, MSEE Project Committee, Shen-Wen Liaw, "Spread sheet simulation in Fortran for modeling ELF Bioelectromagnetics," (December 1989)
- Member, MSCS Thesis Committee, Simon Keng Yew Khoo, "Temporal operators applied to Petri nets, graphs, and NDA," (December 1989)
- Member, MSEE Thesis Committee, Patrick A. Thompson, "Molecular absorption of infrared, visible, and ultraviolet radiation by atmospheric ozone," (August 1989)
- Member, MSEE Thesis Committee, Chikung Wu, "Simulation studies for a compliant link mechanism," (May 1989)
- Member, MSEE Thesis Committee, Hung Wai, "A model for luminescence in SrS:Ce F3 actefel display devices," (June 1988)
- Member, MSEE Thesis Committee, John Calvin Watson, "A series approximation for cylindrical waveguide model current integrals," (December 1987)

- Member, MSC Thesis Committee, Cecilia Marin-Montes, "Synthesis of polymethylene chain bridged bis-purine analogs," (December 1987)
- Member, MSEE Thesis Committee, Dah Sheng Yen, "Epidemiological study of effects of electric and magnetic fields of extremely low frequency," (December 1987)
- Member, MSEE Thesis Committee, Michael Rollins, Jr., "Input impedance of a semi-infinite rectangular waveguide," (August 1987)
- Member, MSEE Thesis Committee, Saied Feiz, "Dark current flow mechanisms in si homojunction and in CdS/CdTe heterojunction photovoltaic cells," (August 1986)
- Member, MSEE Thesis Committee, Shafie Yousef Abdelqader, "Pulse position modulation signal detection for the optical fiber channel," (August 1985)

#### ***E. Postdoctoral Fellows/Visiting Scholars Supervised***

- Catalin Lacatus, Ph.D., University of Texas at San Antonio, "Hybrid communication systems," Begins October 2008
- Kwangsoob Ko, Navigation Department, Korea Naval Academy, Ph.D., Clarkson University, NY, USA, "Marine communication and navigation electronic systems," 2005.
- Fathi Abdelmalek, Ph.D., Institut Polytechnique de Lyon, France, "Analysis of multilayer materials used as distributed optical reflectors," 2000

#### ***F. Undergraduate Students (Research) Supervised***

##### ***UTSA***

- Brandy Alger, WDM Project, 2006 - 2008
- Shawn Shonda Butler, WDM Project, 2006-2008
- Schreiber, VPI Simulation, High Speed Links, 2007 - 2008
- Siu Kin Yip, VPI Simulation Package, High Speed Links, 2007 - 2008
- Kismet Palmer, WDM Project, 2006- 2008
- David Seiler, WDM Project, 2006- 2007
- David Hastings, Optical Fiber Reference Links, 2006 - 2007
- Joshua Junquiera, Optical Fiber reference Links, 2006-2007
- Michael Abbot, Optical Fiber Reference Links, 2006- 2007
- Chris Tevino, M-QAM Fiber Optic Project, 2005-2006
- John Hicks, M-QAM Fiber Optic Project, 2005-2006
- Mureray, Fawn, Fiber Optic RF Links, 2004-2006
- Okic, Slema, Fiber Optic RF Links, 2004-2006
- Saumya, Singh, Optical Fiber Interface, 2004-2006
- Lutz, Maria, RF Links, 2004-2006
- Darnell, Miles, RF Links, 2004-2006
- Bendoraitis, Arnas, M-QAM Optical Fiber Project, 2004-2005
- Eija, James, M-QAM Optical Fiber Project, 2004-2005

##### ***UTEP***

- Daniel Escobar, Fiber Optic Links for Reference Signals, 2003-2004
- Mark Martini, Fiber Optic Links for Reference Signals, 2003-2004
- Irasema Gonzalez, Fiber Optic Links for Reference Signals, 2003-2004
- Belinda Batista, Fiber Optic Links for Reference Signals, 2003-2004
- Jessica Eley, Fiber Optic Links for Reference Signals, 2003-2004

John M. Lyle, Fiber Optic Links for Reference Signals, 2003-2004  
Gerardo G Macias, Fiber Optic Links for Reference Signals, 2003-2004  
Juan Martinez, Tapered Single-Mode Optical Fibers as Sensors, 2000-2002  
Fernando Garcia, Tapered Single-Mode Optical Fibers as Sensors, 2000-2002  
David Tavares, Tapered Single-Mode Optical Fibers as Sensors, 2000-2002  
Alfredo Perez, Optical Fiber Chemical Sensors, 2000-2003

*From 1984 – 2000, more than 30 undergraduate students have been trained and mentored through research projects and grants.*

### III. RESEARCH

#### A. Bibliography

##### 1. Books/Book Chapters

M. Shadaram and V. Gonzalez, "Optical Fiber Local Area Networks", a chapter in the Encyclopedia of Telecommunications, Edited by John G. Proakis, John Wiley & Sons, ISBN 0-471-36972-1, December 2002.

##### 2. Journal Papers (refereed full length)

###### 2.a Published/In Press

1. C. Lacatus, D. Akopian and M. Shadaram, "Reduced complexity algorithm for spreading sequence design," IEEE Transactions on Circuits and Systems II, accepted for publication.
2. C. Lacatus, D.C. Popescu, M. Shadaram, "Distributed algorithm for optimal sequence and power allocation in uplink code division multiple access systems," IET Communications (formerly IEE Proceedings Communications), Vol. 2, Issue 2, February 2008, pp. 292-299.
3. J. Medrano, V. Gonzalez, A. Musa, and M. Shadaram, "Architecture of a dual stage optical label switch using out-of-band wavelength and code optical properties," IEEE Journal of Selected Topics on Quantum Electronics, Vol. 13, Issue 5, Part 2, September-October 2007, pp. 1568-1578.
4. M. Shadaram, A. Musa, V. Gonzalez, J. Medrano, "Routing algorithm using the flooding mechanism in a hybrid optical-CDMA and WDM all-optical network" Journal of Optical Fiber Technology, Vol. 13, April 2007, pp. 149-155
5. P. Cotae, M. Aguirre, M. Shadaram, "Characterization of sum capacity of overloaded S-CDMA," Military Technical Academy Review, ISSN 1453-259X, No. 1, 2006, pp. 29-38.
6. P. Chennu and M. Shadaram, "Performance evaluation of analog fiber optic links" International Engineering Consortium, Annual Review of Communications, Volume 59, December 2006, pp. 651-665.

7. A. Musa, J. Medrano, V. Gonzalez, and M. Shadaram, "Circuit establishment in an all-optical backbone network," International Engineering Consortium, Annual Review of Communications, Volume 58, November 2005, pp. 315-322.
8. J. Medrano, A. Musa, V. Gonzalez, and M. Shadaram, "High capacity all-optical networks," International Engineering Consortium, Annual Review of Communications, Volume 57, November 2004, pp.629-635.
9. R. K. Khan, H. Kabir, S. M. Shamim Hasan, T. X. Wu, and M. Shadaram, "Performance evaluation of multi-wavelength M-QAM signal transmitted through fiber optic link with EDFA," Optical Fiber Technology Journal, Vol. 10, Issue 3, July 2004, pp. 266-274.
10. F. Abdelmalek and M. Shadaram, "Ellipsometry measurements and impedance spectroscopy on Longmuir-Blodgett membranes on Si/SiO<sub>2</sub> for ion sensitive sensor," Sensors & Actuators: B, Vol. 72, February 2001, pp. 208-213.
11. L. Espada, M. Shadaram, J. Robillard, and K. H. Pannell, "Ferrocenylenesilylene polymers as coating for tapered optical-fiber gas sensors," Journal of Inorganic and Organometallic Polymers, Vol. 10, No. 4, 2000, pp. 169-177.
12. V. Gonzalez and M. Shadaram, "Performance evaluation of a high-speed WDM/ATM optical fiber local area network," Optical Engineering, Vol. 38, November 1999, pp 1853-1861.
13. A. N. Mody, M. Shadaram, and S. Pappert, "Effects of RF phase noise on the performance of the QAM fiber-optic links using Taylor series approximation," Electronics Letters, Vol. 34, November 1998, pp. 2261-2262.
14. M. Shadaram, L. Espada, J. Martinez, and F. Garcia, "Modeling and performance evaluation of ferrocene-based polymer clad tapered optical fiber gas sensors," Optical Engineering, Vol. 37, April 1998, pp. 1124-1129.
15. S. Nimesh and M. Shadaram, "Phase stabilization of reference signals in analogue fibre optic links," Electronics Letters, Vol. 33, June 1997, pp. 1164-1165.
16. M. Shadaram, J. Martinez, F. Garcia, and D. Tavares, "Sensing ammonia with ferrocene-based polymer coated tapered optical fibers," Fiber and Integrated Optics, Vol. 16, January 1997, pp. 115-122.
17. M. Shadaram, J. Medrano, S. Pappert, M. Berry, and D. Gookin, "Technique for stabilizing the phase of the reference signals in analog fiber optic links," Applied Optics, Vol. 34, December 1995, pp. 8283-8288.
18. M. Shadaram and M. Abedian Borojeni, "The effect of source linewidth in a fiber optic gyro," International Journal of Engineering, Vol. 2, January 1991, pp. 45-56.
19. M. Shadaram, "Fiber optic trends: sensing with fibers," Photonics Spectra, Vol. 23, June 1989, pp. 117-118.

20. M. Shadaram and R. Hippenstiel, "Fourier analysis of complex envelope of the echoes in an OFDR," *Applied Optics*, Vol. 25, April 1986, pp. 1083-1086.
21. M. Shadaram, "Analysis of power ratio of Rayleigh and Fresnel reflections in optical fibers using OFDR," *Applied Optics*, Vol. 25, January 1986, pp. 174-175.
22. M. Shadaram and W. Kuriger, "Using the optical frequency domain technique for the analysis of discrete and distributed reflections in an optical fiber," *Applied Optics*, Vol. 23, April 1984, pp. 1092-1095.

### *2.b Submitted/Under Preparation*

1. C. Lacatus, D. Akopian, M. Shadaram, "Reduced Complexity Adaptive Despreading Code Design for GPS Receivers," *Proceedings IEEE Journal of Selected Topics in Signal Processing*, under review
2. C. Lacatus, D. Akopian, P. Yaddanapudi, and M. Shadaram, "Flexible Spectrum and Power Allocation for OFDM Unlicensed Wireless Systems," *IEEE Systems Journal*, under review

### *3. Conference Papers*

#### *3.a Published/Accepted*

1. C. Lacatus, D. Akopian, and M. Shadaram, "Adaptive OFDM Scheme for Spectrum and Power Allocation," *World Automation Congress 2008 Conference*, paper ISIAC-388, Waikoloa, HI, September 28 – October 2, 2008
2. Y. Khambaty, M. Shadaram, and R. Quintana, "Efficient Wavelength Conversion Based on FWM Using IM-DPSK," *World Automation Congress 2008 Conference*, paper ISIAC-394, Waikoloa, HI, September 28 – October 2, 2008
3. A. Moghadas, M. Jamshidi, and M. Shadaram, "Telemedicine in Healthcare Systems," *World Automation Congress 2008 Conference*, paper ISIAC-377, Waikoloa, HI, September 28 – October 2, 2008
4. Y. Khambaty, R. Quintana, M. Shadaram, S. Nehal, W. Ahmed, and G. Ahmedani, "A Stand Alone System for Sign Language Gesture Recognition Using Virtual Reality Glove," *IEEE International Conference on System of Systems Engineering*, Monterey, California, June 2-4, 2008
5. C. Lacatus, D. Akopian, and M. Shadaram, "Implementation Approaches of Adaptive Algorithms for Crosscorrelation Effect Compensation in Weak Signal Conditions," *IEEE/ION PLAN 2008*, Monterey, CA, May 6-8, 2008
6. C. Lacatus, D. Akopian, and M. Shadaram, "Fast convergence of distributed joint spreading sequence and power control algorithms," *IEEE Radio Wireless Symposium*, Orlando, Florida, January 22-24, 2008.

7. C. Lacatus, D. Akopian, and M. Shadaram, "Spectrum assignment for flexible rate cognitive OFDM systems," IEEE MILCOM 2007 Conference, Orlando, Florida, October 29-31, 2007
8. C. Lacatus, D. Akopian, and M. Shadaram, "An adaptive approach to compensate crosscorrelation effects in weak signal conditions for satellite positioning systems," Proceedings of the Institute of Navigation (ION) GNSS Conference, September 25-28, 2007, Fort Worth, TX
9. C. Lacatus, D. Akopian, and M. Shadaram, "Spreading sequence design for MC-CDMA systems," Proceedings IEEE International Conference on System of Systems Engineering – SoSE 2007, 15-18 April 2007, San Antonio, TX.
10. Azarnoush, F. Mir, S. Agaian, M. Jamshidi, and M. Shadaram, "Alaryngeal speech enhancement using minimum statistics approach to spectral subtraction," Proceedings IEEE International Conference on System of Systems Engineering – SoSE 2007, 15-18 April 2007, San Antonio, TX.
11. C. Lacatus, D. Popescu, M. Shadaram, "Minimum user powers and optimal code words in uplink CDMA systems," IEEE WCNC, Hong Kong, March 11-15, 2007, pp 202-206
12. M. Shadaram, C. Parikh, J. Prevost, P. Patel, and W. Lin "Introduction to programmable Logic Devices and Tools in Digital Laboratory," Texas Engineering and Technology Consortium - Technology Workforce Development, Best Practices Conference, Austin, TX, March 5-6, 2007
13. C. Lacatus, D. Popescu, M. Shadaram, "Feedback requirements for greedy interference avoidance," IEEE Radio Wireless Symposium, Long Beach, CA, January 9-12, 2007, pp 381-384.
14. P. Yaddanapudi, N. Vallepali, D. C. Popescu, M. Shadaram, "Performance analysis of multiband TH-PAM and multiband-OFDM UWB communications systems," IEEE Radio Wireless Symposium, Long Beach, CA, January 9-12, 2007, pp 503-506
15. M. Shadaram, P. Cotae, A. Musa, V. Gonzalez, and J. Medrano, "Efficient routing for hybrid optical-CDMA and WDM all-optical networks," IEEE MILCOM, Washington, DC, Paper US-W-Y-3, October 23 – 26, 2006.
16. M. Shadaram, P. Cotae, J. Summerfield, and J. Bratton "Effect of EDFA gain on WDM fiber optic standard frequency distribution link," IEEE MILCOM, Washington, DC, Paper US-W-Y-5, October 23 -26, 2006.
17. P. Cotae, M. Aguirre, M. Shadaram, "Characterization of sum of overloaded S-CDMA," International Conference on Communications, Bucharest, Romania, June 8-10, 2006, pp. 215-218
18. J. Medrano, V. Gonzalez, A. Musa, and M. Shadaram, "Dual stage optical label switch using out-of-band wavelength and code optical properties," IEEE Region 5 Technical, Professional, and student Conference, San Antonio, TX, April 7-9, 2006.

19. P. Chennu, J. D. Bratton, and M. Shadaram, "Effect of phase noise in dense wavelength division multiplexing (DWDM) networks," IEEE Region 5 Technical, Professional, and Student Conference, San Antonio, TX, April 7-9, 2006.
20. P. Chennu, J. D. Bratton, and M. Shadaram, "Performance evaluation of WDM fiber optic frequency distribution systems," IEEE Sarnoff Symposium, Princeton, NJ, March 27-28, 2006
21. V. Gonzalez, A. Musa, C. Thomas, and M. Shadaram, "Analysis of phase noise of RF signals in analog fiber optic systems," IEEE Sarnoff Symposium, Princeton, NJ, March 27-28, 2006
22. P. Cotae, M. Aguirre, and M. Shadaram, "An algorithm for unit tight frames with constant chip magnitude design in overloaded CDMA systems," IEEE Conference on Information Sciences and Systems, Princeton, NJ, March 22-23, 2006, pp. 1528-1533.
23. P. Cotae, M. Aguirre, and M. Shadaram, "Complex spreading sequence design for S-CDMA systems under total weighted squared correlation criterion," IEEE Radio and Wireless Symposium, San Diego, CA, January 17-19, 2006, pp. 187-190.
24. M. Shadaram, C. Thomas, J. Summerfield, and P. Chennu, "RF phase noise in WDM fiber optic links," IEEE International Conference on Transparent Optical Networks (ICTON), Barcelona, Spain, July 3-7, 2005, pp. 401-404.
25. A. Musa, J. Medrano, V. Gonzalez, C. Thomas, and M. Shadaram, "Circuit Establishment in a Hybrid Optical-CDMA and WDM All-Optical Network Using the Flooding Mechanism," Conference on Communications in Computing (CIC'05), Las Vegas, NV, September 2005, pp 106-111.
26. V. Gonzalez, A. Musa, and M. Shadaram, "Development of a communications course integrating a virtual laboratory and complex simulations," ASEE Annual Conference, Portland, OR, June 2005
27. A. Musa, J. Medrano, V. Gonzalez, and M. Shadaram, "Circuit selection in a hybrid optical-CDMA and WDM all-optical network," Proceedings of Conference on Systemics, Cybernetics, and Informatics, SCI-2004, Orlando, FL, July 18-21, 2004, pp 253-258.
28. V. Gonzalez, A. Musa, and M. Shadaram, "Development of an Undergraduate Communications Simulation Laboratory," ASEE Gulf Southwest Section Annual Conference, Lubbock, TX, March 10-12, 2004, Paper Number 67
29. Y. Velankar and M. Shadaram, "Tapered optical fibers for WDM applications," Proceedings of the International Conference on Applications of Photonic Technology (ICAPT), Montreal, Canada, May 2003, pp.
30. M. Shadaram and M. Kaiser, "Performance evaluation of M-QAM fiber optic link with EDFA," Proceedings of CSNDSP 2002 Symposium, Staffordshire University, Stafford, UK, July 2002, pp. 140-143.

31. M. Shadaram and M. Kaiser, "Effect of amplified spontaneous emission noise on the phase of reference signals transmitted through fiber amplifiers," Proceedings of ICAPT' 2002, Quebec City, Canada, June 2002.
32. F. Abdelmalek and M. Shadaram, "Modelling of the photonic bandgap materials used as distributed reflectors," Proceedings of WSES/IEEE 2001 International Conference on Advances in Scientific Computing, Computational Intelligence and Applications, Rethymno, Crete, Greece, July 9-13, 2001, pp. 45-48.
33. F. Abdelmalek and M. Shadaram, "Study of a 1.3  $\mu\text{m}$  micromachined tunable all air-gap vertical cavity surface emitting laser," Proceedings of WSES/IEEE 2001 International Conference on Advances in Scientific Computing, Computational Intelligence and Applications, Rethymno, Crete, Greece, July 9-13, 2001, pp. 126-129.
34. L. Contreras-Sanchez and M. Shadaram, "A plan to increase graduate enrollment at science, mathematics and engineering disciplines," Proceedings of ASEE Conference, Albuquerque, NM, June 24-27, 2001, Session 2793.
35. L. Espada, M. Shadaram, and K. H. Pannell, "Ferrocenylenesilylene polymers as chemical sensors," Proceedings of 34<sup>th</sup> Organosilicon Symposium, White Plains, NY, May 3-5, 2001, Paper C-9.
36. M. Refaei, L. I. Espada, and M. Shadaram, "Application of ferrocene-based polymers in optical fiber gas sensing," Proceedings of SPIE Aero-Sense Conference, Vol. 4036, Orlando, FL, April 2000, pp. 123-131.
37. M. Shadaram and L. Sanchez-Contreras, "A plan to increase graduate enrollment at science, mathematics and engineering disciplines," Proceedings of the ASEE Gulf-Southwest Annual Conference, Las Cruces, NM, April 5-8, 2000, Paper 76C1.
38. F. Abdelmalek and M. Shadaram, "Single wavelength ellipsometry and impedance spectroscopy on LB and mixed LB films on Si/SiO<sub>2</sub> and ISFET for ion sensitive sensor," Proceedings of 5<sup>th</sup> National Conference on Sensors and Microsystems Extended to Mediterranean Countries, Lecce, Italy, February 2000.
39. N. Mody, M. Shadaram, and S. Pappert, "Performance evaluation of M-QAM fiber optic links," ICAPT'98, Ottawa, Canada, July 1998, pp. 527-531
40. N. Mody, M. Shadaram, S. Pappert, and D. Lafaw, "Performance evaluation of M-QAM fiber-optic links in the presence of RF phase noise," Proc. of the DARPA Symposium on Photonic Systems for Antenna Applications (PSAA-8), Session 5, Links and Systems, Monterey, CA, January, 1998.
41. M. Shadaram, A. N. Mody, B. Usevitch, and D. Lafaw, "Performance evaluation of M-QAM fiber-optic links in the presence of the external modulator bias fluctuations," Proc. of the IEEE International Topical Meeting on Microwave Photonics (MWP'97), Duisburg, Germany, September 1997, pp. 131-134.

42. M. Shadaram, S. A. Pappert, and D. Lafaw, "Performance evaluation of a 64-QAM microwave fiber-optic link with a remote external modulator," Proc. of DARPA Symposium on Photonic Systems for Antenna Applications (PSAA-7), Monterey, CA, January, 1997, pp.105-110.
43. M. Shadaram, V. Gonzalez, J. Cenicerros, N. Shah, J. Mayers, S. Pappert, and D. Lafaw, "Phase stabilization of reference signals in analog fiber-optic links," Proc. of the IEEE International Topical Meeting on Microwave Photonics (MWP'96), ATRI, Kyoto, Japan, 1996, 286-282.
44. M. Shadaram, J. Martinez, F. Garcia, D. Tavares, A. Symon, N. Godbout, and S. Lacroix, "Application of ferrocene-based polymers as variable index materials in fiber optic gas sensors," Proc. of SPIE Proceedings, Vol. 2695, San Jose, CA 1996, 164-168.
45. V. Gonzalez, P. Bullock, and M. Shadaram, "Monitoreo de una matriz de sensores de fibra optica usando analisis de fourier," Proc. of XVII Congreso Internacional Academico de Ingenieria Electronica, Instituto Tecnologico de Chihuahua, Chihuahua, Mexico, October 1995, 389-399.
46. M. Shadaram, D. Tavares, F. Garcia, and J. Martinez, "Utilization of VIM-clad tapered fibers for gas detection," Proc. of II Congreso Internacional De Materials, Instituto Tecnologico De Saltillo, Saltillo, Coahuila, Mexico, October 1995, 219-226.
47. M. Shadaram, J. M. Cenicerros, S. A. Pappert, M.H. Berry, and D. Gookin, "Optical feedback system for phase stabilization of the reference signals in analog fiber optic links," Optical Society of America Annual Meeting, paper no. WQ3, Portland, Oregon, September 1995.
48. M. Shadaram, V. Gonzalez, and P. Bullock, "Monitoring fiber optic sensor arrays by analyzing the complex envelope of the probe signal," Optical Society of America Annual Meeting, paper no. WMM3, Portland, Oregon, September 1995.
49. M. Shadaram, D. Tavares, F. Garcia, J. Martinez, and K.H. Pannell, "Tapered optical fibers with ferrocene-based polymers as cladding for gas detection," Optical Society of America Annual Meeting, paper no. WMM5, Portland, Oregon, September 1995.
50. K. Sun, M. H. Berry, S. A. Pappert, G. Anderson, R. J. Orazi, and M. Shadaram, "Phase and amplitude stability of broadband analog fiber optic links," Proc. of SPIE, Vol. 2560, San Diego, CA, July 1995, pp. 50-56.
51. W. Rosen, S. Rajan, V. Gershman, and M. Shadaram, "A technique for increasing bandwidth of high performance electrical backplanes," AGARD-Conference Proceedings 562, Advanced Packaging Concepts for Digital Avionics, paper no. 21, San Diego, CA, 1994.
52. M. Shadaram, "Optical fiber chemical sensors," SPIE Vol. CR53, Critical Reviews of Optical Science and Technology, San Diego, CA, 1994, 367-384. (invited)
53. M. Shadaram and G. Romero, "Development of a data acquisition and processing system for fiber optic sensor arrays," Proc. of IEEE NAECON'94, Dayton, OH, 1994, pp. 350-354

54. R. O. Hendrix, M. Shadaram, S. Nazarian, and M. Picornell, "Measuring stress distribution in pavements using single-mode fiber," Proc. SPIE, Vol. 1798, Boston, MA, September 1992, pp. 200-204.
55. M. Shadaram, G. Lutes and L. Maleki, "Adjustable microwave filters using fiber optic delay lines," Proc. SPIE, Vol. 1790, Boston, MA, September 1992, pp.166-170
56. R. O. Hendrix and M. Shadaram, "The change of polarization in single-mode fibers due to external perturbations," Proc. of 35th Mid-West Symposium on Circuits and Systems, Washington, D.C., August 1992, pp. 792-794.
57. M. Shadaram, "Review of fiber optics and fiber optics materials," The MRCE Monograph Series on Materials and Processes, The University of Texas at El Paso, Vol. 3, No. 1, El Paso, Texas, 1992, pp. 2-11.
58. T. R. Logan, Jr., L. Maleki, and M. Shadaram, "Stabilization of oscillator phase using a fiber optic delay line," Proc. of 45th IEEE Symposium on Frequency Control, Los Angeles, CA, May 1991, pp. 508-512
59. M. Shadaram and E. John, "Effect of pulse shape on the performance of FSK optical communication systems," Proc. SPIE, Vol. 1365, San Jose, CA, September 1990, pp. 108-115
60. M. Shadaram, A. Solehjoui, and S. Nazarian, "Application of fiber optic sensors in pavement maintenance," Proc. SPIE, Vol. 1332, San Diego, CA, July 1990, pp. 487-490
61. M. Shadaram, "A fiber optic microbend sensor array," Proc. IEEE MEXICON'89, Mexico City, September 1989, pp. 1-3.
62. M. Shadaram, "Discrete measurement of field distribution using fiber optic microbend sensor," Proc. SPIE, Vol. 954, Dearborn, MI, June 1988, pp. 652-656
63. M. Shadaram, "Detection of discrete faults with very low reflectivity along optical fibers," Proc. of 14th Congress of the International Commission for Optics, Quebec, Canada, August 1987, pp. 363-365,
64. M. Shadaram and J. Ahmad, "Optimum pulse shape for transmission through graded-index optical fibers," Proc. of 30th Midwest Symposium on Circuits and Systems, Syracuse, NY, August 1987, pp. 824-826
65. M. Shadaram, "Design of an altimeter using fiber optic reflection devices," Proc. of the 29th Midwest Symposium on Circuits and Systems, Lincoln, NE, August 1986, pp. 405-406

### *3.b Submitted/Under Preparation*

- M. Faraz, R. Quintana and M. Shadaram, "Effect of four wave mixing on the performance of high capacity fiber optic links," IEEE Sarnoff Symposium, Princeton, NJ, April 2008

## 5. Other Articles

### 5.a Trade Journal Articles

1. M. Shadaram, G.F. Lutes, R.T. Logan, and L. Maleki, "Adjustable fiber-optic microwave transversal filters," NASA Tech Brief, Laser TB 94-2, May 1994, p. 29.
2. M. Shadaram, "Build a 16 channel point sensor for discrete field measurements," Fiber Optic Product News, Vol. 4, July 1989, pp. 18-19.
3. M. Shadaram, "Optical frequency domain reflectometry," an abstract, Optics News, Vol. 11, January 1985, p. 15.

### 5.b Technical Reports

1. M. Shadaram, D. Akopian, and C. Lacatus, "Distributed Codeword Adaptation and Power Control in Dynamic CDMA Systems," Texas Higher Education Coordinating Board, ARP Project 010115-0013-2006, May 2007.
2. M. Shadaram and R. Quintana, "Creating Learning Communities at UTSA to Improve Retention and Preparation of Underrepresented EE Students, U.S. Department of Education Grant Performance Report, Award P120A050003, December 2006.
3. M. Shadaram, "ABET Interim Visit Report for the Bachelor of Science degree in Electrical Engineering Program at UTSA," ABET, June 2006
4. M. Shadaram and Rolando Quintana, "A Repeatable and Reproducible Approach for Improving Retention and Graduation Rates of Underrepresented Minorities and Women in EE," Project Report – Texas Workforce Development, Award # 010115-EE2005-1000, July 2006
5. M. Shadaram and Rolando Quintana, "Creating Learning Communities at UTSA to Improve Retention and Preparation of Underrepresented EE Students" U.S. Department of Education, Grant Performance Report, Award # P120A050003, April 2006.
6. Shadaram, "Distribution of RF Signals via WDM links," Report no. 1, Office of Naval Research, August 2004.
7. Shadaram and EE faculty, "Self-Study Report for the Bachelor of Science degree in Electrical Engineering Program at UTSA," ABET, July 2004.
8. Shadaram and EE faculty, "Appendix I - Self-Study Report for the Bachelor of Science degree in Electrical Engineering Program at UTSA," ABET, July 2004.
9. Novick, M. Shadaram, A. Gates, S. Cabrera and P. Teller, "Graduate Education for Minority Students in Computer Science and Engineering: Extending the Pipeline," Report no. 3, National Science Foundation, May 2003.

10. Novick, M. Shadaram, A. Gates, S. Cabrera and P. Teller, "Graduate Education for Minority Students in Computer Science and Engineering: Extending the Pipeline," Report no. 2, National Science Foundation, June 2002.
11. M. Shadaram and ECE faculty, "Self-Study Report for the Bachelor of Science degree in Electrical Engineering Program at UTEP," ABET, July 2001.
12. Sharadam and ECE faculty, "Appendix I - Self-Study Report for the Bachelor of Science degree in Electrical Engineering Program at UTEP," ABET, July 2001.
13. Novick, M. Shadaram, A. Gates, S. Cabrera, and P. Teller, "Graduate Education for Minority Students in Computer Science and Engineering: Extending the Pipeline," Report no. 1, National Science Foundation, June 2001.
14. Shadaram, "Effect of amplified spontaneous emission noise on the phase of reference signals transmitted through fiber amplifiers," Space and Naval Warfare Systems Center, Code 895, San Diego, CA, July 1999.
15. M. Shadaram, "Stabilizing the phase of microwave signals in analog fiber optic links," report no. 2 for National Security Agency, Fort Mead, March 1997, 0-96-3.
16. M. Shadaram, "Optical fiber chemical sensors," Report no. 4, National Science Foundation (MRCE), April 1997, HRD-9353547.
17. M. Shadaram, "Optical fiber chemical sensors," Report no. 3, National Science Foundation (MRCE), April 1996, HRD-9353547.
18. M. Shadaram, "Stabilizing the phase of microwave signals in analog fiber optic links," report no. 1 for National Security Agency, Fort Mead, MD, February 1996, 0-96-3.
19. M. Shadaram, "Phase stabilization of analog fiber optic links," final report for Naval Command, Control and Surveillance Center, San Diego, CA, January 1996, N66001-95-M-0736.
20. M. Shadaram, "Optical fiber chemical sensors," Report no. 2, NSF (MRCE), April 1995, HRD-9353547.
21. M. Shadaram, "Optical fiber chemical sensors," Report no. 1, NSF (MRCE), April 1994, HRD-9353547.
22. M. Shadaram, P. Bullock, and V. Gonzalez, "Distributed optical fiber sensors," Report for NASA- Jet Propulsion Laboratory, Pasadena, CA, December 1994, NAS7-SUB-959279.
23. M. Shadaram and J. Medrano, "Application of fiber optic delay lines in optical signal processing," Report for Jet Propulsion Laboratory, Pasadena, CA, December 1994, 958744 (Phase II).

24. M. Shadaram, "Analog fiber optic link analysis," American Society for Engineering Education, Washington, D.C., 1994.
25. M. Shadaram "Implementation of electrical backplanes in very high speed data distribution networks," American Society for Engineering Education, Washington, D.C., 1993.
26. M. Shadaram and G. Romero, "Design and implementation of a fiber optic sensor array," Report for NASA- Jet Propulsion Laboratory, Pasadena, CA, December 1992, NAS7-SUB-959279.
27. M. Shadaram and R. O. Hendrix, "Polarization characteristics of single-mode optical fiber under external perturbations," Final Report, Jet Propulsion Laboratory, Pasadena, CA, December 1992, 958744 (Phase I).
28. M. Shadaram, "A detailed plan for the completion of the study of microbending effects on phase and polarization of signals in optical fibers," Jet Propulsion Laboratory Report 1, Pasadena, CA, June 1991, 958744 (Phase I).
29. M. Shadaram, 2 Scientific and Technical Reports submitted to the Office of Research at The University of Texas at El Paso, 1986-1987, circulation was limited to Faculty and specialized groups.

## ***B. Lectures, Seminars***

(Chronologically, NOT INCLUDING presentations given at conferences as shown in 3a)

### *1. Scientific Lectures, Seminars*

- "Fiber Optic Research Activities at the University of Texas at El Paso," Seminar at Electrical and Computer Engineering Department, North Carolina A&T State University, Greensboro, NC, (June 1999)
- "Fiber Optic Research Activities at the University of Texas at El Paso," Seminar at Electrical Engineering Department, University of Hampton, Hampton, VA (1998)
- "RF Phase Stabilization in Microwave Fiber Optic Links," Network Research Laboratory, C&C Systems Research Laboratories, NEC Corporation, Kawasaki, Japan (1996)
- "Microwave Photonic Links," Laboratory for Physical Sciences, University of Maryland, College Park, MD (1996)
- "Stabilization of Analog Fiber Optic Links," Research Coffee Club, Naval Command, Control and Ocean Surveillance Center, San Diego, CA (1995)
- "Optimum Pulse Shape for Coherent FSK Fiber-Optic Communications," Seminar at Electrical Engineering Department, New Mexico State University, Las Cruces, NM (1990)
- "Advances in Fiber Optic Technology," IEEE El Paso Section Meeting (1989)
- "Fiber Optics," Seminar at Electrical Engineering Department, University of South Carolina, Columbia, SC (1987)
- "Characterization of Optical Fibers Using OFDR," Seminar at Electrical Engineering Department, University of Alabama in Huntsville, Huntsville, AL (1986)
- "Review of Fiber Optic Technology," Seminar at Electrical Engineering Department, California State University, Sacramento, CA (1985)

2. *Other Lectures, Seminars, Briefings, Short courses*

- Invited Speaker, "Career Directions for Students in Architecture," Architecture, Construction and Engineering (ACE) Mentor Program of San Antonio, College of Architecture, University of Texas at San Antonio, November 15, 2007
- Invited Speaker, "Road to Success", Lady of the Lake University, San Antonio, TX, February 3, 2007
- Invited Speaker, "Career Directions for Students in Architecture," Architecture, Construction and Engineering (ACE) Mentor Program of San Antonio, College of Architecture, University of Texas at San Antonio, November 28, 2006
- Guest Speaker, "Electrical Engineering Research Activities at UTSA," Technology Advocates of San Antonio, Monthly Meeting, University of Incarnate Word International Conference Center, San Antonio, Texas, October 15, 2003
- Speaker, "Ideas for Collaboration among Southwest ECE Programs," Southwest Electrical and Computer Engineering Department Head Association (SWECEDHA) Meeting, University of Texas at Austin, Austin, Texas November 2002.
- Panelist, "Dissertation and Thesis Writing," Graduate School, University of Texas at El Paso, November 2002.
- Panelist, "Undergraduate Research Experiences," Electrical and Computer Engineering Department Head Association Annual Meeting, Hutchinson Island, FL, March 2002.
- Guest Speaker, in numerous banquets sponsored by Eta Kappa Nu and IEEE Students Chapter at UT El Paso

C. *Areas of Research Interest*

Mehdi Shadaram has been either PI or Co-PI on numerous grants and contracts, totaling more than **\$9 million in the past 20 years**. NASA, Jet Propulsion Laboratory, National Science Foundation, Office of Naval Research, Department of Defense, US Department of Education, Texas Higher Education Coordinating Board, Texas Instruments and Lucent Technologies have funded his research projects. His main area of research activity is in the broadband analog and digital fiber optic communication systems and photonic devices. In addition, he has extensive experience in Engineering Education Research.

D. *Research Support*

1. *National/International*

Agency: NSF (Sub-agreement with the Wright State University, under NSF Prime Agreement DUE-0817332)  
Title: A National Model for Engineering Mathematics Education  
Reviewed (Y/N): Y  
Date (start-end): August 1, 2008 – August 31, 2012  
Total amount: \$100,000  
Role: Principle Investigator

Agency: US Department of Education, Grant Award No: P120A060002  
Title: A Structured HS to Engineering Undergraduate Pipeline for Hispanic Females Peer  
Reviewed (Y/N): Y

Date (start-end): October 1, 2006 – September 30, 2009  
Total amount: \$195,712  
Role: Principle Investigator

Agency: National Academies, Gift  
Title: College of Engineering Faculty Workshop  
Peer Reviewed (Y/N): N  
Date (start-end): May 30, 2007  
Total amount: \$1,800  
Role: Principle Investigator

Agency: US Department of Education, Grant Award No.: P120A050003  
Title: Creating Learning Communities at UTSA to Improve Retention and Preparation of Underrepresented EE Students  
Peer Reviewed (Y/N): Y  
Date (start-end): October 1, 2005 – September 30, 2008  
Total amount: \$ 199,658  
Role: Principle Investigator

Agency: Sub-Contract with UTEP under National Science Foundation Prime Agreement HRD-09550502  
Title: Research Experience for Undergraduates  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 2005 – May 31, 2006  
Total amount: \$ 51,250  
Role: Principle Investigator

Agency: Office of Naval Research, Award No: N00014-03-1-0515, \$598,600  
Title: Distribution of RF Signals via WDM Networks  
Peer Reviewed (Y/N): Y  
Date (start-end): March 1, 2003 – May 31, 2007  
Total amount: \$ 598,600  
Role: Principle Investigator

Agency: NASA Johnston Space Center, Project No.: SSA-HA-02-26  
Title: Telemedicine Instrumentation Pack  
Peer Reviewed (Y/N): N  
Date (start-end): June 2002 – May 2004  
Total amount: \$76,000  
Role: Principle Investigator

Agency: National Science Foundation, Project No.: EIA-0080940,  
Title: Graduate Education for Minority Students in Computer Science and Engineering: Extending the Pipeline  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 2000 through August 31, 2005  
Total amount: \$1,250,000  
Role: Co-Principle Investigator

Agency: National Science Foundation, Project No.: HRD09550502,  
Title: Research Experience for Undergraduates Program (under Model Institution for Excellence (MIE) Phase II grant, an \$11M grant, funded by the National Science Foundation)  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 1999-August 31, 2003  
Total amount: the REU share was \$1,273,000  
Role: Co-Principle Investigator

Agency: National Security Agency, Grant No.: MDA904-97-R-0619  
Title: Performance Analysis of M-ary QAM Fiber Optic Links in the Presence of Laser Intensity Noise  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 1997-May 31, 2000  
Total amount: \$206,340  
Role: Principle Investigator

Agency: National Security Agency, Project No.: 0-96-3  
Title: An Investigative Study of the Stability of Broadband Analog Fiber Optic Links Peer Reviewed (Y/N): Y  
Date (start-end): November 1, 1995-August 31, 1997  
Total amount: \$99,695  
Role: Principle Investigator

Agency: Naval Command, Control and Ocean Surveillance Center, Project No.: N66001-95-M-0736  
Title: Phase Characterization of Reference Signals in Analog Fiber Optic Links Reviewed (Y/N): Y  
Date (start-end): February 1, 1995-January 31, 1996  
Total amount: \$24,497  
Role: Principle Investigator

Agency: National Science Foundation, A sub-project under the Material Research Center of Excellence (MRCE), Project No.: HRD-9353547  
Title: Optical Fiber Chemical Sensors  
Reviewed (Y/N): Y  
Date (start-end): October 1, 1993-September 30, 1998  
Total amount: The share for this project was \$385,000 (total MRCE budget was \$5M)  
Role: Principle Investigator

Agency: National Aeronautics and Space Administration, Project No.: NAS7-SUB-959279  
Title: Fiber Optic Sensor Arrays  
Reviewed (Y/N): Y  
Date (start-end): April 1, 1992-December 31, 1995  
Total amount: \$186,000  
Role: Principle Investigator

Agency: Jet Propulsion Laboratory, Project No.: 958744 (Phase II)

Title: Implementation of Adjustable Microwave Filters Using Fiber Optic Delay Lines  
Reviewed (Y/N): Y  
Date (start-end): September 1, 1992-December 31, 1994  
Total amount: \$65,100  
Role: Principle Investigator

Agency: Jet Propulsion Laboratory, Project No.: 958744 (Phase I)  
Title: Effect of Fiber Optic Microbends on Phase and Polarization of Optical Signals  
Reviewed (Y/N): Y  
Date (start-end): June 1, 1990-May 31, 1992  
Total amount: \$56,000  
Role: Principle Investigator

Agency: Strategic Highway Research Projects, Project No.: SHRP H-104  
Title: Instrumentation and Testing for Pavement Maintenance  
Reviewed (Y/N): Y  
Date (start-end): March 1, 1990-February 28, 1993  
Total amount: \$696,924  
Role: Co-Principle Investigator

## 2. *State*

Agency: Texas Workforce Commission, Project No: 2008WSW001  
Title: Increasing Opportunity, Retention and Graduation Rates For Minority Females through a Systemic TETC 2007 Best Practices-Based Process  
Peer Reviewed (Y/N): Y  
Date (start-end): January 1, 2008 – August 31, 2009  
Total amount: \$194,413  
Role: Principle Investigator

Agency: Texas Higher Education Coordinating Board  
Title: An Engineering Pipeline for High School to Undergraduate through a Structured Research and Mentoring Experience  
Peer Reviewed (Y/N): Y  
Date (start-end): October 1, 2007 – November 30, 2007  
Total amount: \$12,500 (supplement for Project No.: 010115-TYT06-0001,  
Role: Principle Investigator

Agency: Texas Higher Education Coordinating Board  
Title: Engineering Core Curriculum Redesign for Increasing Preparedness and Retention  
Peer Reviewed (Y/N): Y  
Date (start-end): July 1, 2007 – August 31, 2009  
Total amount: \$264,900  
Role: Co-Principle Investigator

Agency: Texas Higher Education Coordinating Board, Project No.: 010115-TYT06-0001,  
Title: College of Engineering Faculty Workshop  
Peer Reviewed (Y/N): Y

Date (start-end): August 1, 2006 – March 14, 2008  
Total amount: \$282,613  
Role: Principle Investigator

Agency: Texas Higher Education Coordinating Board, Advanced Research Program, project No: 010115-0013-2006,  
Title: Distribution Codeword Adaptation and Power Control in Dynamic CDMA Systems  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 2006 – August 31, 2008  
Total amount: \$50,000  
Role: Co-Principle Investigator

Agency: Texas Higher Education Coordinating Board, Advanced Research Program, project No: 010115-0013-2006,  
Title: Distribution Codeword Adaptation and Power Control in Dynamic CDMA Systems  
Peer Reviewed (Y/N): Y  
Date (start-end): September 1, 2006 – August 31, 2008  
Total amount: \$50,000  
Role: Co-Principle Investigator

Agency: Texas Higher Education Coordinating Board, Advanced Research Program, Project No.: 010115-EE2005-1000  
Title: A Repeatable and Reproducible Approach for Improving Retention and Graduation Rates of Underrepresented Minorities and Women in EE  
Peer Reviewed (Y/N): Y  
Date (start-end): May 1, 2005 – August 31, 2007  
Total amount: \$160,053  
Role: Principle Investigator

Agency: Texas Higher Education Coordinating Board, Advanced Research Program, 003661-EE2003-0000  
Title: Creating Learning Communities at UTEP to Increase Throughput  
Peer Reviewed (Y/N): Y  
Date (start-end): January 1, 2004 – August 31, 2005  
Total amount: \$139,767  
Role: Principle Investigator

### 3. *Companies*

Agency: AT&T Foundation, Gift  
Title: Creation of a Technology Center for UTSA College of Engineering Students  
Peer Reviewed (Y/N): N  
Date (start-end): September 1, 2004 – May 31, 2007  
Total amount: \$1.5M  
Role: Faculty Contributor

Agency: Freescale, Gift  
Title: Digital Systems Laboratory

Peer Reviewed (Y/N) N  
Date (start-end): Awarded in April 2006  
Total amount: \$10,000  
Role: Principle Investigator

Agency: SpecPro Inc., Huntsville, Alabama, Subcontract No. SP-04-C-0017 under U.S.  
Government Prime Contract No.: FA8901-04-C-0017  
Title: US Air Force Mentor Protégé Program  
Peer Reviewed (Y/N): N  
Date (start-end): September 1, 2004 – May 31, 2007  
Total amount: \$68,626  
Role: Principle Investigator

Agency: Lucent Technologies, Gift  
Title: Development of Communication Systems Simulation Laboratory  
Peer Reviewed (Y/N): N  
Date (start-end): Awarded in March 2001  
Total amount: \$99,600  
Role: Principle Investigator

Agency: Texas Instruments Foundation, Gift  
Title: Enhancement of DSP/Communication Curriculum  
Peer Reviewed (Y/N): N  
Date (start-end): June 1, 2000 through May 31, 2003  
Total amount: \$1,440,000  
Role: Co-Principle Investigator

Agency: Northern Telecomm (Nortel), Gift  
Title: Fiber Optic Project  
Peer Reviewed (Y/N): N  
Date (start-end): January 1998  
Total amount: \$2,000  
Role: Principle Investigator

#### 4. *Other*

Agency: Office of Research at the University of Texas at El Paso  
Title: Implementation of Fiber Optic Sensors  
Peer Reviewed (Y/N): Y  
Date (start-end): January 1, 1986- August 30, 1986  
Total amount: \$5,800  
Role: Principle Investigator

Agency: Office of Research at the University of Texas at El Paso  
Title: Fiber Optic project  
Peer Reviewed (Y/N): Y  
Date (start-end): 1986  
Total amount: \$500

Role: Principle Investigator

Agency: Office of Research at the University of Texas at El Paso

Title: Establishment of a Fiber Optic Research Lab

Peer Reviewed (Y/N): Y

Date (start-end): January 1, 1985- August 30, 1985

Total amount: \$5,600

Role: Principle Investigator

Agency: Office of Research at the University of Texas at El Paso

Title: Fiber Optic project

Peer Reviewed (Y/N): Y

Date (start-end): 1985

Total amount: \$500

Role: Principle Investigator

Agency: Texas Workforce Commission

Title: Increasing Opportunity, Retention and Graduation Rates For Minority Females Through a Systemic TETC 2007 Best Practices-Based Process

Peer Reviewed (Y/N): Y

Date (start-end): January 1, 2008 – August 31, 2009

Total amount: \$194,500

Role: Principle Investigator

##### 5. *Research Associates*

Dr. Stephen Pappert, Dr. Justin Hodiak, and Ms. Debra Gookin, Electro-Optic Research Group, SPAWAR Systems Center, San Diego, CA

Dr. Lute Maleki, Dr. Ronald Logan, Jr. and Mr. George Lutes, Time and Frequency Systems Research Group, Jet Propulsion Laboratory, Pasadena, CA

Mr. Don Lafaw, Laboratory for Physical Sciences, University of Maryland/National Security Agency, College Park, MD

Dr. Susan Lacroix, Integrated Optic Laboratory, Ecole Polytechnique of Montreal, Canada

Dr. Fathi Abdelmalek, Institut Polytechnique de Lyon, France

Dr. Mohammad Madihian, NEC Research Laboratory, Princeton, NJ

Dr. Virgilio Gonzalez, Electrical and Computer Engineering, University of Texas at El Paso

Dr. David Novick, Computer Science, University of Texas at El Paso

Dr. Soheil Nazarian, Civil Engineering, University of Texas at El Paso

Dr. Keith Pannell, Chemistry Department, University of Texas at El Paso

Dr. Rolando Quintana, Department of Management Science and Statistics at UTSA

## **IV. SERVICE**

### ***A. Professional Activities***

#### ***1. Current Professional and Scientific Organizations/Societies***

Institute of Electrical and Electronics Engineers (IEEE), Senior Member, Communication Society and Laser and Electro-Optic Society (Since 1982)  
Optical Society of America (OSA), Member, (Since 1984)  
Society of Photo-Optical Instrumentation Engineers (SPIE), Member, (Since 1984)  
American Society for Engineering Education (ASEE), Member, (Since 2004)  
American Association for the Advancement of Science (AAAS), Member, (Since 2007)

#### ***2. Past and Current Positions and/or Offices Held in Professional Organizations***

Chairman, El Paso/Las Cruces IEEE Section (1988-1990)  
Chairman, IEEE Professional Activities Committee for Engineers (PACE), El Paso/Las Cruces Section (1987-1988).  
Treasurer, IEEE El Paso/Las Cruces Section (1987-1988)  
IEEE Counselor, UTEP Student Branch (1986-1990)

#### ***3. Editor/Editorial Board Member***

Editorial Board Member, Journal of Computers and Electrical Engineering, Elsevier Publishing, (2005-2008)

#### ***4. International Conference/Meeting/Symposium Organizer/Chairmanship***

Steering Committee Member, IEEE Radio and Wireless Symposium, January 2009, San Diego, CA  
Member of Scientific Committee, International Conference on Modeling and Simulation, Petra, Jordan, November 18-20, 2008  
General Chairman, IEEE Region 5 Conference, April 7-9, 2006, San Antonio, TX  
Chairman, Material Research Center of Excellence (MRCE) Conference on Fiber Optics and Fiber Optics Materials, University of Texas at El Paso (1989)  
Chairman, IEEE Video Conference on Fiber Optics, University of Texas at El Paso (1985)

#### ***5. Keynote Speaker***

International Conference on Modeling and Simulation, "Challenges of Engineering Education in 21<sup>st</sup> Century," Maán, Jordan, November 18-20, 2008  
UT System Louis Stokes Alliance for Minority Participation (LSAMP), Student Research Conference and General Meeting, San Antonio, TX, September 27, 2007

#### ***6. Session Chair/Organizer***

Chairman, SiRF3 Poster Session, IEEE 9<sup>th</sup> Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems, January 2009, San Diego, TX  
Chairman, TU2P Interactive Poster session, IEEE radio and Wireless Symposium, January 2009, San Diego, CA

Member, Technical Program Committee, IEEE International Conference on System of Systems Engineering, June 2008, Monterey, CA  
Member, International Program Committee for the Eighth IASTED International Conferences on Wireless and Optical Communications (WOC 2008), May 2008, Quebec City, Quebec, Canada  
Chairman, Technical Session (Ad-Hoc Networks), IEEE Radio and Wireless Symposium' 08, January 2008, Orlando, FL  
Chairman, Technical Program Sub-Committee (Wireless Sensors/Ad Hoc Networks), IEEE Radio and Wireless Symposium'08, January 2008, Orlando, FL

Member, Technical Program Committee, IEEE International Conference on System of Systems Engineering, April 2007, San Antonio, TX  
Member, Technical Program Committee, IEEE Radio and Wireless Symposium'07, January 2007, Long Beach, CA  
Member, International Program Committee for the Seventh IASTED International Conferences on Wireless and Optical Communications (WOC 2007), May 2007, Montreal, Quebec, Canada  
Chairman, Technical Session (Concepts and Development of Wireless Sensor Systems, WE4B), IEEE Radio and Wireless Symposium'07, January 2007, Long Beach, CA  
Co-Chairman, Technical Session (UWB and Antenna, TU4C), IEEE Radio and Wireless Symposium'07, January 2007, Long Beach, CA  
Member, Technical Program Committee, IEEE Radio and Wireless Symposium'06, January 2006, San Diego, CA  
Chairman, Technical Program Subcommittee (Wireless Sensors/Ad Hoc Networks), IEEE Radio and Wireless Symposium'06, January 2006, San Diego, CA  
Chairman, Technical Session (Wireless Networks, TH4B), IEEE Radio and Wireless Symposium'06, January 2006, San Diego, CA  
Chairman, Technical Session (Novel Techniques for Wireless Communications, WE4C), IEEE Radio and Wireless Symposium'06, January 2006, San Diego, CA  
Member, International Program Committee for Optical Communication Systems and Networks (OCSN2006), July 2006, Banff, Canada  
Member, Technical Program Subcommittee, IEEE Radio and Wireless Conference, September 2004, Atlanta, GA  
Chairman, Technical Session (Wireless Sensing and Positioning, W1B), IEEE Radio and Wireless Conference, September 2004, Atlanta, GA  
Co-Chairman, Technical Session (Wireless Channel and Signal Reception, T3A), IEEE Radio and Wireless Conference, September 2004, Atlanta, GA

## *7. Reviewer for Journals*

Applied Optics  
Optics Letters  
Optic Express  
Optical Engineering  
IEEE Transactions on Signal Processing  
IEEE Photonics Technology Letters  
IEEE Transactions on Education  
Journal of Optical Society of America B  
Journal of Optical Fiber Technology  
Journal of Information Sciences

Journal of Computer and Electrical Engineering  
Journal of Optics and Laser Technology  
Holt, Rinehart and Winston (HRW) Publishing Company (1985-1986)  
Prentice Hall Publishing Company (1986)

8. *Review Panels for Grants*

Review Panel, National Science Foundation, Integrative, Hybrid and Complex Systems (IHCS) Program, 2008  
Review Board Member, National Research Council Ford Foundation, Doctoral and Post Doctoral grant applications (2005 – present)  
Proposal Reviewer, US Civilian Research and Development Foundation, (2004)  
Application Reviewer, National Science Foundation Graduate Research Fellowship Programs (1990)  
Proposal Reviewer, Natural Sciences and Engineering Research Council of Canada (1989-1990)

9. *Continuing Education Seminars Given*

“High Speed Optical Fiber Communications,” Short Course for Engineers at Spec-Pro and Texas Management Associates, University of Texas at San Antonio, August 18, 2005.  
“Graduate Program at the Electrical Engineering Department of U.T. El Paso,” Seminar at Physics Department, San Angelo State University, San Angelo, TX (1993)  
“Fiber Optic Technology and Applications,” Amateur Radio Club of El Paso (1990)

10. *Community Service*

Invited Speaker, Architecture, Construction and Engineering (ACE) Mentor Program of San Antonio, College of Architecture, University of Texas at San Antonio, November 15, 2007  
Member, Engineering Technology Challenge of San Antonio (2006 – present)  
Member, Economic Development Council Technology Summit Initiative, The Greater San Antonio Chamber of Commerce, San Antonio, TX, June 7, (2005 – present)  
College of Engineering Liaison and Faculty Advisor, Texas Public Radio-UTSA Construction® Project, organized by the Society for Design Administration, October 7-14, 2007  
Faculty Liaison, GradNet University Program ([www.gradnet.iec.org](http://www.gradnet.iec.org)) sponsored by the International Engineering Consortium and Electrical and Computer Engineering Department head Association, since April 2004.  
Participant, Texas Engineering and Technology Consortium/Texas Workforce Development Grants meeting, Texas Higher Education Coordinating Board, Austin, TX, November 3, 2003  
Participant, Texas Engineering and Technology Consortium/Texas Workforce Development Grants meeting, Texas Higher Education Coordinating Board, Austin, TX, November, 2001.  
Participant, Model Institution for Excellence Review Process, University of Texas at El Paso (October 1999)  
Participant, Model Institution for Excellence Advisory Board Meeting, University of Texas at El Paso (April 1999)  
Judge, U.T. El Paso Research Expo (1998)  
Judge, U.T. El Paso Research Expo (1996)  
Judge, Sun Country Science Fair, El Paso Area Schools (1993)  
Contribution Solicitor, United Way of El Paso County (1993)

Contribution Solicitor, United Way of El Paso County (1990)  
U.T. El Paso Delegate, Continuing Education Fair, Texas Instruments, Midland, TX (1990)  
Project Lift-Off Mentor to the middle school students in El Paso area sponsored by the  
Comprehensive Regional Center for Minorities (CRCM) at U.T. El Paso (1990-1992)  
Presented numerous technical talks at Graduate Seminar, Electrical Engineering at U.T. El Paso  
(1984-2003)  
Presented numerous talks at several student organizations at U.T. El Paso  
Presented talks at the El Paso area high school Science Clubs in regards with recent advances in  
the field of optical fiber communications (1987-1988)

## **B. Committees**

### *1. Department*

#### **At the University of Texas at San Antonio**

Member, Computer Engineering Faculty Search Committee (2007)  
Chair, Communication Concentration Committee (2006 – present)  
Member, Periodic Performance Review Committee (2007)  
Member, Undergraduate Curriculum Committee (2006-present)  
Chair, Undergraduate Curriculum Committee (2003-2006)  
Chair, Voting Committee (2006 – present)  
Chair, ABET-CQI Committee (2003-2006)  
Member, Senior Design Committee (2005 – present)  
Member, Proposal for Master of Science in Computer Engineering, Ad-Hoc (2003-2004)  
Member, Ph.D. Committee (2003 – present)  
Member, Communication Concentration Committee (2003 – 2006)

#### **At the University of Texas at El Paso**

Chair, ABET-CQI Committee (1999 - 2003)  
Chair, Faculty Search Committee (1999 - 2003)  
Member, Post-Tenure Review Committee (1998-1999)  
Member, ABET-CQI Committee (1998-1999)  
Member, Department Advisory Board Committee (1998-2003)  
Chair, Ph.D. Advisory Committee (1998-1999)  
Member, Ph.D. Advisory Committee (1996-1998)  
Member, Computer Committee (1997-1999)  
Member, Electrical Engineering Communications Course Committee (1996-2003)  
Member, Electrical Engineering Faculty Retreat Committee (1996)  
Member, Electrical Engineering Electronics Course Committee (1990-2003)  
Member, Electrical Engineering Equipment Committee (1990-1998)  
Chair, Electrical Engineering Senior Project Committee (1990)  
Graduate Advisor, Electrical Engineering Department (1986-1993)

### *2. College of Engineering*

#### **At the University of Texas at San Antonio**

Chair, ABET Committee (2006 – Present)  
Member, UTSA Engineering Building Phase II Furnishing Committee (2007 – present)

Affirmative Action Advocate Member, Faculty Search Committee, Civil Engineering (2008)  
Affirmative Action Advocate Member, Faculty Search Committee, Civil Engineering (2006)  
Chair, College of Engineering Scholarship Committee (2006 – present)  
Member, Intellectual Property Advisory Committee (2005 – 2006)  
Judge, Engineering Research Expo, College of Engineering, The University of Texas at San Antonio, April 14, 2005.  
Member, College Executive Council Committee (2003 – present)  
Member, ABET Committee (2003-2004)  
Member, College Budget Committee (2003-2004)  
Affirmative Action Advocate Member, Endowed Chair Faculty Search Committee, Mechanical Engineering and Biomechanics (2004)

**At the University of Texas at El Paso**

Director, Ph.D. Program in Computer Engineering (1999-2003)  
Member, College Advisory Committee, (1999-2003)  
Member, Tenure and Promotion Committee (1998-2000)  
Member, ABET-CQI Task Force Committee (1998-2001)  
Member, Math Curriculum Committee (1998-2000)  
Member, Committee to Study Productivity, College of Engineering (1993)  
Chair, College of Engineering Excellence Award Selection Committee (1992)  
Member, College of Engineering Equipment Committee (1987)

3. *University*

**At the University of Texas at San Antonio**

Member, Learning Communities Advisory Board (2006 – present)  
Member, Strategic Planning Student Success (2006 – present)  
College Liaison, Southern Association of Schools and Colleges (2006 – present)  
Member, Strategic Planning, Accountability Team, (2006-present)  
Member, Associate Deans Council (2006 – present)  
Member, IT Oversight Committee (2005 – present)  
Member, University Standing Committee on Radiation Safety (2005-present)  
Member, Affirmative Action/ Diversity Focus Group (2005)  
Member, State Employees Charitable Campaign Leadership Committee, 2005  
Coordinator, UTSA State Employees Charitable Campaign, 2004

**At the University of Texas at El Paso**

Director, Research Experience for Undergraduates Program (1999-2003).  
Member, Ad Hoc Committee on Preparation and Evaluation of Graduate Teaching Assistants (1996)  
Member, Graduate Council (1993-1999)  
Member, Graduate Council Subcommittee to review departments' self-study reports (1996-1999)  
Member, University Laser Safety Committee (1994-2003)  
Member, Graduate Faculty (1984-2003)  
Member, Material Research Center of Excellence Executive Advisory Committee (1991-1993)  
Chair, Union and Bookstore Committee (1990-1992)  
Member (Vice Chair), Student Conduct Committee of the Faculty Senate (1986-1989)

### ***C. Administrative Responsibilities***

#### ***1. Department***

##### **At University of Texas at San Antonio**

Chairman, Department of Electrical and Computer Engineering, (2003-2006)

##### **At University of Texas at El Paso**

Chairman, Department of Electrical and Computer Engineering, (1999-2003)

#### ***2. College***

##### **At University of Texas at San Antonio**

Associate Dean of Engineering, University of Texas at San Antonio, (2006 – present)

Director, Center for Excellence in Engineering, (2008 – present)

#### ***3. Staff Currently Supervised (not including students)***

Ms. Lona George, Director, College of Engineering Advising Center

Ms. Sheila Slife, Senior Administrative Associate, College of Engineering

### **V. OTHER INFORMATION**

#### ***A. Patents Pending/Issued***

Patent Disclosure, “A method of compensating the MAI effects in weak signal conditions for satellite positioning systems,” with Catalin Lacatus and David Akopian, 2007

#### ***B. Media Coverage***

Published article, “UTSA College of Engineering hosts Summer Internship Program,” Texas Nonprofits, June 2008

<http://www.txnp.org/Articles/articles.asp?ArticleID=8796>

Published article, “Summer internships at UTSA inspire young engineers,” Sombrilla, The University of Texas at San Antonio magazine, Winter 2008, Vol. 24, No.1, p. 11

<http://www.utsa.edu/pub/sombrilla/>

Articles and TV news about UTSA being awarded nearly \$200,000 to support minority-engineering recruitment for women

San Antonio Business Journal

[http://www.bizjournals.com/sanantonio/stories/2008/01/14/daily3.html?ana=from\\_rss](http://www.bizjournals.com/sanantonio/stories/2008/01/14/daily3.html?ana=from_rss)

Dallas Business Journal

<http://www.bizjournals.com/dallas/othercities/austin/stories/2008/01/14/daily2.html>

Austin KTEN News Channel

<http://www.kten.com/Global/story.asp?S=7620616>

Published article in San Antonio Express News on June 6, 2007 in regards with Summer Internship Program for High School Students in the College of Engineering at University of Texas at San Antonio

[www.mysanantonio.com/news/metro/stories/MYSA060607.utsa.internships.EN.1d1eedab.html](http://www.mysanantonio.com/news/metro/stories/MYSA060607.utsa.internships.EN.1d1eedab.html)

Interviewed by San Antonio TV Channel 12 (KSAT-12) in regards with Summer Internship Program for High School Students, June 5, 2007

[http://streamer.utsa.edu/ramgen/streaming2/video productions/communications/6-5-07\\_KSAT\\_NOON\\_UTSA\\_ENGINEERING\\_mpg.rm](http://streamer.utsa.edu/ramgen/streaming2/video productions/communications/6-5-07_KSAT_NOON_UTSA_ENGINEERING_mpg.rm)

Recognized on the Texas Public Radio and cited on their website for organizing a team of students from the Colleges of Engineering and Architecture to participate in Texas Public Radio-UTSA Canstruction® Project, organized by the Society for Design Administration, October 7-14, 2007

<http://www.tpr.org/articles/2007/10/canstruction.html>

Interviewed by San Antonio Business Journal in regards with the new MS program in Computer Engineering, March 29, 2005

<http://sanantonio.bizjournals.com/sanantonio/stories/2005/03/28/daily10.html>

Interviewed by Graduating Engineer and Computer Careers Online Magazine in regards with employment of minority engineers in governmental agencies, November 2003.

<http://www.graduatingengineer.com/articles/feature/01-05-04c.html>

Interviewed by UTSA Today, an online news outlet for UTSA, in regards with the new position as the new chair of electrical engineering department

<http://www.utsa.edu/today/2003/11/shadaram.cfm>

Cited in the Horizon, UTEP quarterly magazine, "Faculty Earn Chairs and Professorships," April 28, 2002

[www.horizon.utep.edu/Releases/2002/Apr02/recognition1.html](http://www.horizon.utep.edu/Releases/2002/Apr02/recognition1.html)

Interviewed by the Minority Science and Engineering Initiative Office at the Jet Propulsion Laboratory, "The Year in Review," Hispanic Initiative, 1991, pp 9-10

### **C. Other**

#### *1. Management/Administrative Training*

The Individual Development & Educational Assessment (IDEA) Center, Kansas State University, Motivating Students to Learn, San Antonio, TX, February 25-27, 2007.

Scholarship Training, TxClass Course ID: SD236, Workshop sponsored by the Office of Scholarship and Financial Aid, UTSA, November 3, 2005

Managing Technical Professionals, Sloan School of Management Executive Program, Massachusetts Institute of Technology, September 15-16, 2005

Program Assessment and Methodology Training Session, sponsored by the Office of the Vice Provost for Academic Compliance and Institutional Research, UTSA, June 10, 2005.

Performance Evaluation Guidelines, TxClass Course ID: SU 298, Workshop Sponsored by the Human Resources, UTSA, April 13, 2005.

Faculty Recruitment Guidelines, TxClass Course ID: FS 111, Workshop sponsored by the Office of Institutional Diversity, UTSA, November 5, 2004.  
Chairing the Academic Department, Workshop for Division and Department Chairs and Deans, American Council on Education, San Antonio, TX, November 3-6, 2004  
Training and Refresher Session Regarding Management Issues, Workshop sponsored by the Office of the Provost, UTSA, October 29, 2004  
EEO Laws (Texas Work Commission 2004), UT Health Science Center, San Antonio, TX, September 13, 2004.  
Apple Executive Briefing, San Jose, CA, March 4, 2004  
New Department Chairs Workshop, University of Texas at El Paso, October 1999.  
Electrical and Computer Engineering Department Head Association (ECEDHA) Annual Meetings, 2000, 2001, 2002, 2003, 2004, 2005  
Southwest Electrical and Computer Engineering Department Head Association (SWECEDHA) Annual Meetings, 1998, 1999, 2000, 2001, 2002, 2003  
IEEE/ABET Program Evaluator Workshop, Albuquerque, NM, June 25, 2001.  
IEEE/ABET Training Workshop, New Orleans, March 17, 2000

## *2. Participation in Workshops, Short Courses, and Meetings*

Texas Higher Education Coordinating Board, Workshop I: An Orientation to Course Redesign, Austin, TX, October 15, 2007.  
White House-University of Texas at El Paso, Hispanic Serving Institutions, El Paso, Texas, April 23-24  
U.S. Department of Education, Minority Science and Engineering Improvement Program, Technical Assistance Workshop, Washington, DC, February 7-9, 2007  
National Academies Convocation on Rising above the Gathering Storm, Washington, DC, September 28, 2006  
The HACU Hispanic Higher Education Research Collective Conference, San Antonio, Texas, August 3, 2006  
Texas Engineering and Technology Consortium (TETC) Best Practices Meeting, Southern Methodist University, Dallas, TX, January 10-11, 2006  
Texas Engineering and Technology Consortium (TETC) Executive Committee Meeting, Southern Methodist University, Dallas, TX, September 6, 2005  
Texas Engineering and Technology Consortium (TETC) Executive Committee Meeting, Southern Methodist University, Dallas, TX, June 28, 2005  
Focus Group on Diversity initiated by the President's Affirmative Action & Diversity Committee, hosted by the Office of Institutional Diversity at UTSA, January 25, 2005.  
Post Award Workshop, 311<sup>th</sup> Human Systems Wing/BC Air Force Mentor-Protégé Program Office, San Antonio, TX, September 9, 2004.  
NSF Day Workshop, UTSA, San Antonio, TX, January 23, 2004  
University Center for Electromagnetic Energy Research and Terrorism Preparedness, Brooks City Base, TX, October 1, 2003  
EID Activation for Employees with DEFINE access, Course ID: AM 533, workshop sponsored by the Office of Information Technology, UTSA, September 18, 2003.  
Introduction to DEFINE, Course ID: DE 650, Sponsored by Human Resources, UTSA, September 11, 2003.  
Optical Fiber Communications (OFC) Conference, Anaheim, CA, March 17-22, 2001.

UTEP College of Engineering ABET 2000 Workshop, Las Cruces, New Mexico, August 22-23, 2000.

IEEE International Topical Meeting on Microwave Photonics, Melbourne, Australia, November 17-20, 1999.

UTEP College of Engineering ABET 2000 Workshop, Las Cruces, New Mexico, August 17-18, 1999.

Raytheon ABET 2000 Workshop, presented by the Raytheon and the University of Puerto Rico at Mayaguez. Sponsored by UTEP, October 23-24, 1998

A Seminar on Electro-Optical Filters for Telecommunications, Sponsored by the University of California in San Diego, CA, June 1995

Hispanic University Faculty Visit Workshop, National Security Agency, Fort Mead, MD (1994)

Faculty Workshop on Ethics and Professionalism sponsored by Texas State Board of Registration for Professional Engineers, University of Texas at El Paso (1993)

Western Communications Forum sponsored by National Engineering Consortium, Inc., Phoenix, AZ (1991)

Third Annual Technical Interchange Workshop sponsored by Jet Propulsion Laboratory, Pasadena, CA (1991)

Intensive Spanish for Professionals I short course, U.T. El Paso Continuing Education (1991)

National Communications Forum sponsored by National Engineering Consortium, Inc., Chicago, IL (1989)

Faculty Visit Seminar sponsored by the United States Army Information Systems Command, Fort Huachuca, AZ (1986)

Represented El Paso/Las Cruces IEEE Section at the Ninth Professional Activities Committees for Engineers Conference of the IEEE United States Activities Board, Kansas City, MO (1986)

UT System Faculty Conference on Proposal Development, Dallas, TX (1986)