

Mehrube “Ruby” Mehrubeoglu

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EDUCATION

- Ph.D.**, Electrical Engineering, Texas A&M University, College Station, TX, 12/00
 Dissertation Title: “Diffuse reflectance imaging modalities for
 characterization of highly scattering turbid media.”
 Committee Co-Chairs: Dr. Nasser Kehtarnavaz and Dr. Lihong V. Wang
- M.S.**, Bioengineering, Texas A&M University, College Station, TX, 8/95
 Thesis Title: “Measurement of moisture and total reducing sugars in
 potatoes using near infrared spectroscopy.”
 Committee Chair: Dr. Gerard Coté
- B.S.**, Electrical Engineering, The University of Texas at Austin, Austin, TX, 5/93
- Certificate** (graduate level), Management in Science and Technology, 9/06
 OHSU-OGI, Beaverton, OR,

EXPERIENCE

TEACHING AND RELATED EXPERIENCE

- Department of Computing Sciences (formerly Computing and Mathematical Sciences),
 Engineering Technology Program, TAMU-CC, Corpus Christi, TX*
Program Coordinator, Mechanical Engineering and Engineering Technology 01/10 – present
Assistant Professor 09/07 – present
Visiting Assistant Professor 09/05 – 5/07
- Department of Electrical Engineering and Computer Science, TAMU-K, Kingsville, TX*
Visiting Assistant Professor 01/05 – 05/05, 09/05-05/07
- Distance Education Division, Decker College, Kentucky* 2005
Online Instructor
- Department of Computer Engineering, Cyprus International University, Nicosia, N. Cyprus*
Chair, Assistant Professor 10/02 – 8/04
- Department of Engineering Technology, Texas A&M University, College Station, TX*
Lecturer 9/98 - 5/99
- Department of Engineering Technology, Texas A&M University, College Station, TX*
Assistant Lecturer 9/97 - 1/98
- Department of Electrical Engineering, Texas A&M University, College Station, TX*
Graduate Teaching Assistant 6/98 - 8/98
- Department of Biology, Texas A&M University, College Station, TX*
Graduate Teaching Assistant 8/95-2/96
- Graduate Teaching Academy Certification Program, Texas A&M University,
 College Station, TX* 99-00
Fellow (GTA Certificate, May 2000)

RELEVANT NON-ACADEMIC WORK EXPERIENCE

1. SPAWAR Systems Center – Pacific, San Diego, CA 5/10-7/10, 5/09-8/09
ONR Summer Faculty Fellow
2. Microvision, Inc., Redmond, WA 5/07-8-07
Faculty Engineering Intern
3. Electro Scientific Industries, Inc., Portland, Oregon 5/06-8/06
Faculty Research Intern
4. Electro Scientific Industries, Inc., Portland, Oregon 2000-2002
Software Engineer/Postdoctoral Research Engineer
5. Career Center, Texas A&M University, College Station, TX 6/99 - 10/00
Graduate Student Services Coordinator

SUMMARY OF TAUGHT COURSES

Texas A&M University-Corpus Christi, Corpus Christi, TX

1. ENTC 1203/1303 Introduction to Engineering Technology
2. ENTC 2414 Circuit Analysis I
3. ENTC 3233 Manufacturing Automation (now Robotics and Automation)
4. ENTC 3415 Digital Fundamentals
5. ENTC 3416 Circuit Analysis II
6. ENTC 3418 Microprocessors and Microcontrollers
7. ENTC 4448 Control Systems II
8. ENTC 4416 Directed Independent Study – Digital Logic

Fundamentals of Engineering (FE) Exam Reviews (non-credit):

1. Engineering Economics (02/08/06)
2. Circuit Analysis (03/29/06)
3. Computers (04/03/06)

Texas A&M University-Kingsville, Kingsville, TX

1. EEEN 4329 Communications Engineering
2. EEEN 5350 Application of Neural Networks (Graduate level)
3. EEEN 5337 Digital Image Processing (Graduate level)

Cyprus International University Haspolat, Nicosia, N. Cyprus

1. Software Engineering
2. Computer Graphics
3. Basic Electronics
4. Graduation Projects
5. Computer Architecture
6. Object Oriented Programming
7. Signal and Image Processing
8. Artificial Intelligence
(Graduate Students)

Decker College, Louisville, KY

1. GE 104 Applied Science for Construction (online – distance education)

Texas A&M University, College Station, TX

1. ENTC 330 Industrial Electricity, lecture and laboratories
2. ENTC 219 Digital Electronics, lecture and laboratories
3. ELEN 214 Digital Systems Design, laboratories
4. BIOL 319/320 Integrated Human Anatomy & Physiology I/II, laboratories

STUDENT MENTORING/ADVISING

Mentored Undergraduate Research Project Presentations (poster/oral with abstract)

1. Diego Rojas, "Tracking moving objects using two synchronous cameras" 6TH Annual LSAMP Symposium, Texas A&M University, College Station, TX, February 27, 2010
2. A. Perez, S. Jackson and M. Mehrubeoglu, "Ultrasound Image Analysis through Pixel Duplication and Structural Measurements," (*Sigma Xi*) 9th Annual Undergraduate Research Symposium, Texas A&M University-Corpus Christi, October 10, 2009 (poster)
3. Diego Rojas and M. Mehrubeoglu, "Motion Tracking in Real-time Applications" (poster presentation by Diego Rojas (sophomore) 8th Annual Undergraduate Research Symposium, Texas A&M University-Corpus Christi, November 1, 2008)
4. "Visual Enhancement of Medical Image via Pixel Duplication" (poster presentation by Stacy Jackson and Ruben Longoria (freshmen), 8th Annual Undergraduate Research Symposium, Texas A&M University-Corpus Christi, November 4, 2008)
5. Diego Rojas, "3D Motion using Lego Mindstorms," NASA LSAMP Symposium, Houston, TX, February 8-9, 2008.
6. "Research on 3D Biped Motion through the Use of Lego Mindstorms NXT," (poster presentation by Diego Rojas (freshman), December 17, 2007); Extended abstract in *Proc. Computing Alliance of Hispanic-Serving Institutions (CAHSI)*, pp.64-65, 2nd Annual Meeting, Miami, FL, December 15-18, 2007.
7. "Design and Implementation of a Biped Robot from Lego Pieces to Model Human 3D Walking," (oral presentation by Diego Rojas (freshman) 7th Annual Undergraduate Research Symposium, Texas A&M University-Corpus Christi, November 17, 2007.
8. "Development of Programmable Discrete Component IC for use in electronic circuits," (oral presentation by Edward Eiland (senior) 7th Annual Undergraduate Research Symposium, Texas A&M University-Corpus Christi, November 17, 2007. This presentation won 3rd place)

Advised Capstone Projects (Engineering Technology)

1. Jesse Leyba and Gabriel Fernandez, 'Hydropower Turbine: Ocean Energy to Electric Current,' (Fall 09 – Spring 10)
2. Nick Patterson, 'Wave Power Buoy,' (Fall 08 – Spring 09)
3. Brett Colwell, 'Lift Station Simulator,' (Spring 09)
4. Edward Eiland, 'Formula SAE Car Electrical Systems Fabrication,' (Fall 07 – Spring 09)
5. Ramon Rommel Espinosa 'Lift Station Demo' (Fall 05)

GRADUATE STUDENT COMMITEES

1. Hung Ngo, "LPC Vocoders for Environmental Monitoring Using Wireless Sensor Networks," M.S. Project, Computer Science, TAMU-CC, Degree expected in August 2010
2. Siddhartha Dasari, "Integrating the Gulf of Mexico In Situ Observational Databases," M.S. Project, Computer Science, TAMU-CC December 2008
3. Kwi-Woo Park, "An Artificial Neural Network to Improve Orthogonal Laplacian Face Recognition," M.S. Thesis, TAMU-K, May 2008
4. Kalyan Velicheti, "Performance Analysis of Two Sets of Image Enhancement Methods on Noise-Added Images," M.S. Project, Electrical Engineering, TAMU-K, December 2006
5. Rajesh Reddy Kalwakuntla, "Face Recognition of Color Images Using Artificial Neural Networks," M.S. Thesis, Electrical Engineering, TAMU-K, December 2005

SCHOLARSHIP

GRANTS

Federal Level

1. **PI** on NSF-MRI-R² Grant 0960000, “MRI-R2: Development of Hyperspectral Optical Property Instrumentation (HOPI) for Biomedical and Environmental Research,” \$524,171, 3/1/10-2/28/12
2. **PI** on NIH-EARDA Pilot Project Grant HD-052357 “Enhancement of Medical Images for Automatic Content Interpretation,” \$14,300, 09/01/08-06/30/10
3. **Co-PI** on NSF-CCLI Grant 0737526, “An Innovative Approach to Learning via Peer-to-Peer Undergraduate Mentoring in Engineering Technology Laboratories,” \$199,988, 04/01/08-03/31/10
4. **Co-PI** on NSF-MII Grant 0330822, “MII: Improving the Pipeline in Applied Computer Science,” \$1,350,000, 09/01/03-08/31/2008

State and University Level

1. **Co-PI**, Texas Higher Education Coordinating Board, “Engineering Recruitment Programs: 2010 Engineering Summer Program”, project #: 011161-ESP10-0000, 2010, \$18,000, 05/01/2010 – 01/31/2011
2. **PI**, Texas Research Development Fund Grant, “Thermal Imaging using Infrared Camera,” \$29,592, 10/01/2010-08/31/2011
3. **PI**, Texas Research Development Fund Grant “Tracking Objects in Motion using Multiple Cameras,” \$12,000, 03/08-08/31/09
4. **Co-PI**, Texas Workforce Commission, Texas Youth in Technology Grant Program, “Initiatives to Increase Participation in Computer Science and Engineering” (Proposed Amount: \$46,000; Received Amount: \$82,200), 1/1/2008-08/31/2009
5. **Co-PI**, Texas Workforce Commission “Texas Nuclear Workforce Development Initiative,” \$30,000, 10/01/07-09/30/08

International Level

1. **Project Coordinator**, Cultural and Scientific Research Society (NGO), *STD Project on the Status of Sexually Transmitted Diseases in North Cyprus*, 2003 (sponsored by Civil Society Program, European Union, project MP23, ~ US\$6,000 (exchanged from Euro))

Industry (Donation)

1. **Lead**, Donation by Motorola of HC12 microprocessors and data books to expand the Digital Electronics Laboratory facilities, Department of Engineering Technology and Industrial Distribution, Texas A&M University (total solicited donations equivalent to over \$5,000), 1998-99.

CONFERENCE ORGANIZATION

Organizer of and mediator at the *First Domestic Conference on STD: Sexually Transmitted Diseases in North Cyprus*, Cultural and Scientific Research Society, Nicosia, Cyprus, 30 October 2003 (partially sponsored by Civil Society Program, European Union, project MP53)

SERVICE

TEXAS A&M UNIVERSITY-CORPUS CHRISTI SERVICE

University

- Member, Faculty Senate, College of Science & Technology Representative (2008-2011)
- Member Faculty Senate Faculty Affairs Committee (2008-2011)
- Member, Faculty Renaissance Center Committee (2008-2009)
- Chair-elect, Faculty Renaissance Center Committee (2009-2010)
- Chair, Faculty Renaissance Center Committee (This committee has been renamed Center for Faculty Excellence) (2010-1011)
- Member, University Scholarship Committee (2008-2011)
- Judge, Oral presentations, Sigma Xi 9th Undergrad. Research Symposium, TAMUCC, (Oct. 10, 2009)
- Faculty Participant, Island Days (recurring service) (2005-2009)
- Member, Campus Signage Task Force (2008)
- Judge, Graduate Research Competition (Spring 2009)

College

- Member, S&T Distinguished Lecturer Series Committee (2009 - 11)
- Represent Dept. Chair in College Chairs Meetings when unavailable

Department

- Chair, CSCI Faculty Seminar Series Committee (2008-2010)
- Chair, Recruitment and Retention Committee (2007-2008)
- Program Coordinator, Mechanical Engineering and Engineering Technology (01/2010 – present)

Program

- Chair, Electrical Engineering Technology Faculty Search Committee (2008-2009)
- Library Liaison, Engineering Technology (2008-2010)
- Member, Engineering Technology MS Program Assessment Committee (2006-2007)
- Faculty Advisor, SME TAMU-CC Student Chapter (Fall 2008-present)
- Member, Senior Mechanical Engineering Faculty, Mechanical Engineering Technology Faculty, and Engineering Education Coordinator Search Committees (2008-2010)

COMMUNITY LEVEL SERVICE

- Head Judge, 3rd Graders, 21st Annual Coastal Bend Science Fair, Corpus Christi, TX, 05/01/10
- Judge, National Association of Women in Construction (NAWIC) Chapter #4 CAD Program competition, Corpus Christi, TX, 03/23/10-04/02/10
- Judge (Notebooks), 2009 Best Robotics Competition (10/24/2009, 10/28/2006), Kingsville, TX
- Judge, 17th, 18th, 19th and 20th Annual Coastal Bend Science Fair, Corpus Christi, TX, 04/05, 04/29/06, 04/28/07, 05/03/08
- 2008 UIL Calculator Contest, Kingsville, Assistant Director
- Organizing seminars under the auspices of IEEE Corpus Christi Section, open to the public, 2006-2010

PROFESSIONAL SERVICE

Journal/Conference Article Peer Reviews

- Annals of Biomedical Engineering, Mar 2007, Mar 2009, Jan 2010
- IVCNZ 2009, 24th International Conference on Image and Vision Computing, Wellington, New Zealand, November 23-25, 2009
- 2009 Annual American Society of Engineering Education (ASEE) Conference and Exposition, (Engineering Technology Division (ETD), Liberal Education Division (LED), and Engineering Ethics Division (EED))
- 2009 IEEE International Conference on Systems, Man, and Cybernetics (invited)
- International Journal of Engineering Education, Special Issue on Applications of Engineering Research (June 2009)
- 2010 Annual ASEE Conference and Exposition (abstracts reviewer)
- IVCNZ 2008, 23rd International Conference Image and Vision Computing New Zealand, Christchurch, New Zealand, 26-28 November 2008
- Student Paper Reviewer, ASEE-GSW Annual Conference, Corpus Christi, Texas, March 2005.
- IEEE Journal of Image Processing, Fall 2001.

Conference Technical Committees

1. IS&T/SPIE Electronic Imaging, Real-Time Image and Video Processing 2011, San Francisco, CA, 23-27 January 2011
2. SPIE Optics and Photonics Conference, Mathematics of Data/Image Pattern Recognition, Compression and Encryption, with Applications XIII, San Diego, CA, 1-5 August 2010
3. IEEE Green Technology Conference 2010, Grapevine, TX, April 15-16, 2010
4. SPIE Photonics Europe, Real-Time Image and Video Processing, Brussels, Belgium, April 12-16, 2010
5. Image and Vision Computing New Zealand 2009, Wellington, New Zealand, November 23-25, 2009
6. SPIE Optics and Photonics Conference, Mathematics of Data/Image Coding, Compression, and Encryption with Applications XII, San Diego, CA, August 2-6, 2009
7. IS&T/SPIE Electronic Imaging, Real-time Image Processing 2007, San Jose, CA, 28 January – 1 February 2007

Book Review

- Book Reviewer, Engineering Technology, by Robert Pond, 7th Edition, Upper Saddle River, NJ: Pearson Prentice Hall, 2007 (02/26/07) (revised version published 2008)

Journal Editorship

Journal of Real-time Image Processing (JRTIP)

Special Issue on Real-Time Vision-Based Motion Analysis and Intelligent Transportation Systems

Guest Editors: Mehrube Mehrubeoglu and Barak Fishbain

Seminar/Workshop Presentations

1. Ruby Mehrubeoglu, "AUV Sensor-Payload Workbench: Exploratory Pilot for Image/Video Processing," Enterprise Lexicon Services (ELS) Workshop: SensorNets, MITRE, San Diego, Jul. 22, 2009.
2. Ruby Mehrubeoglu, "ClassAct Seminar and Training", *Department of Computing Sciences Faculty Seminar and Graduate Research Series, Texas A&M University-Corpus Christi, CI 106, Oct., 2009*
3. Ruby Mehrubeoglu, Presentation on Electrical Engineering Technology Program Status Update, Industry Advisory Board, Sep. 24, 2009
4. Ruby Mehrubeoglu, *ClassAct Training Workshop for ET Faculty, Texas A&M University-Corpus Christi, ST 220, Sep. 18, 2009*
5. Ruby Mehrubeoglu, "Digital Watermarking Techniques," *Department of Computing Sciences Faculty Seminar and Graduate Research Series, Feb. 13, 2009, 11:00am*
6. Ruby Mehrubeoglu, "Detection of Traffic Flow in Traffic Webcam Images," *IEEE Corpus Christi Section, Technical Meeting, University Center, Texas A&M University-Corpus Christi, Oct. 25, 2008*
7. Ruby Mehrubeoglu, "Vehicle Counting in Traffic Camera Images", *Department of Computing Sciences Faculty Seminar Series, Texas A&M University-Corpus Christi, CI 106, Apr. 11, 2008*
8. Ruby Mehrubeoglu, "Determination of Vehicle Flow from Traffic Camera Images," IEEE Corpus Christi Section Technical Seminars, TAMUCC, University Center, Oct. 25, 2007
9. Ruby Mehrubeoglu, "Image Processing in Machine Vision Applications," *Department of Computing Sciences Faculty Seminar Series, CI 106, TAMUCC, Feb. 23, 2007*
10. Ruby Mehrubeoglu, "Image Processing Applications in the High-Tech Industry," IEEE Corpus Christi Section Technical Seminars, Corpus Christi, TX, Jan. 27, 2005

MEMBERSHIPS AND POSITIONS

- SPIE (The International Society for Optical Engineering), *Lifetime Member*
- IEEE (Institute of Electrical and Electronics Engineers), *Senior Member*
- IEEE Corpus Christi Section, *Director (2006), Secretary (2007, 2008), President (2009, 2010)*
- ASEE (American Society for Engineering Education), *Member*
(*Division Affiliation: Biomedical Engineering; Electrical and Computer Engineering, Engineering Ethics; Engineering Technology and First-Year Programs*)
- SME (Society of Manufacturing Engineers), *Senior Member, Student Branch Faculty Advisor (Texas A&M Univ.-Corpus Christi), Biomedical Tech Group Co-Advisor*

AWARDS AND ACHIEVEMENTS

- IEEE Senior Member (2009 – present)
- ONR Summer Faculty Research Program Fellow (2009, 2010)
- IEEE Corpus Christi Section Delegate at 2008 IEEE Sections Congress, Quebec, Canada (September 19-22, 2008) and at 2005 IEEE Sections Congress, Tampa, Florida (14-17 October, 2005)
- Eppright Outstanding International Student Award, Texas A&M University, 1999
- Horrace W. South Endowed, Student Leadership Award, TAMU, 1998-99 academic year
- Association of Former Students Endowed Scholarship for Academic Excellence, TAMU, 1997-98 academic year.
- National EIT (engineer in training) Examination, November 1997
- Academic Achievement Award, 1995-96 academic year, TAMU