

## Sesh Commuri

Gerald Tuma Presidential Professor  
School of Electrical and Computer Engineering  
University of Oklahoma  
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### A. Professional Preparation

1. Doctor of Philosophy in Electrical Engineering, May 1996.  
University of Texas, Arlington, Texas.  
Dissertation: *A Framework for Intelligent Control of Nonlinear Systems*.  
Advisor: **Prof. Frank L. Lewis**
2. Master of Technology in Electrical Engineering, May 1989.  
Indian Institute of Technology, Kanpur, India.  
Thesis: *Collision-Free Path Planning for Robot Manipulators*.  
Advisor: **Prof. Arindam Ghosh**
3. Bachelor of Technology in Electrical and Electronics Engineering, August 1985.  
Jawaharlal Nehru Technological University, Hyderabad, India.

### B. Appointments

1. **Gerald Tuma Presidential Professor**, School of Electrical and Computer Engineering, University of Oklahoma, 1/14/2002 – present (Associate Professor 1/14/2002 – 7/31/2011, tenured 2008, Professor 2010, Presidential Professor 2013).
2. **Editor-at-Large**, Journal of Intelligent and Robotic Systems, Springer, Netherlands. Chief Editor: Dr. Ing. Prof. Kimon P Valvanis (Senior Editor 2012-2014; Area Editor 2006-2012).
3. **Member**, University Research Council, Office of the Vice President for Research, University of Oklahoma, August 2014- July 2017.
4. **Chairman**, Graduate Studies Committee, School of Electrical and Computer Engineering, University of Oklahoma, August 2013 – till date.
5. **Staff Engineer**, Motorola, Champaign, Illinois, 5/15/2000 – 11/28/2001.
6. **Senior Systems Engineer**, Vermeer Manufacturing Co., Pella, Iowa, 9/1/1999 – 5/15/2000.
7. **Engineering Manager**, CGN & Associates, Peoria, Illinois, 2/1/1996 – 8/31/1999.
8. **Research Associate**, Automation and Robotics Research Institute, University of Texas, Arlington, 9/1/1991 – 2/1/1996.

9. **Research Associate**, School of Engineering Science, Simon Fraser University, Canada, 1/14/1991 – 8/31/1999.
10. **Research Engineer**, School of Electrical Engineering, Indian Institute of Technology, Kanpur, India, 3/1/1989 – 12/31/1990.
11. **Research Associate**, School of Electrical Engineering, Indian Institute of Technology, Kanpur, India, 7/1/1987 – 2/28/1989.
12. **Customer Engineer**, Xerox Ltd., India, 8/15/1985 – 7/31/1986.

### C. Awards and Recognition

- **Gerald Tuma Presidential Professor, University of Oklahoma, 2013** in recognition of outstanding teaching and research contributions.
- **OU Vice President for Research 2011 Outstanding Research Impact Award**, May 2011.
- **OU Research Council**, Member, 2014-2017.
- **Editor-at-Large**, Journal of Intelligent and Robotic Systems, Springer, Netherlands (Senior Editor 2012-2014; Area Editor 2006-2012).
- **Invited Sessions Chair**, 2011 *IEEE Multi Systems Conference* to be held in Denver, CO, September 28-30, 2011.
- S. Commuri and R. Fierro (Eds.), "**Special Issue on Unmanned Autonomous Vehicles**," *Journal of Intelligent Robotic Systems*, vol. 56, no. 1-2, September 2009.
- Paper coauthored by my graduate student Anh Mai was **Nominated for Best Student Paper Award in Signal Processing, Systems Modeling and Control** at the International Conference on Informatics in Control, Automation, and Robotics, ICINCO 2013, Reykjavik, Iceland, July 2013.
- **Recipient of the Best Paper Award in Signal Processing, Systems Modeling and Control** at the International Conference on Informatics in Control, Automation, and Robotics, ICINCO 2010, Funchal, Portugal, June 2010.
- My graduate student **Anh Mai** received the "**Best Doctoral Research Proposal Award**" at the 2010 IEEE International Conference on Networking, Sensing, and Control, held in Chicago, Illinois, during April 11-13, 2010 for his research titled "Intelligent Control of a Human Ankle Prosthesis."
- Technical Advisor – WorkSmart Inc., The student project team won the **First place** in the Donald W. Reynolds Oklahoma Governor's Cup Business Plan Competition.
- Industry Advisor - Society of Women Engineers, University of Illinois, Urbana-Champaign. The team bagged the **First place** in the National SWE Conference in Denver in 2001.
- Recipient of Controls Award from Caterpillar, Inc for the modeling and control of D11R Tractor (1996).
- Recipient of **Sigma Xi Outstanding Doctoral Dissertation** award at University of Texas at Arlington for 1995-1996.
- Designated "**University Scholars Fellow**" at the University of Texas at Arlington, 1993.

- Recipient of the National Science Foundation Grant Research Assistantship from the University of Texas at Arlington, Department of Electrical Engineering for the years 1991-1995.
- Recipient of Rudolf Hermann Graduate Fellowship for academic excellence at the University of Texas at Arlington for the academic year 1993-94.
- Recipient of UTA Alumni Fellowship for academic excellence for the academic years 1991-92 and 1992-93.

Several articles on my research in Asphalt Compaction in magazines and trade publications:

- Compass Briefs by Pamela Grady in OKC BIZ, March 23, 2009.
- Bringing Innovations to Market by Julie Zirlin in Public Roads, US Department of Transportation, Federal Highway Administration, vol. 72, #4, January-February 2009.
- Intelligent Asphalt Compaction Analyzer in Technology Partnerships Program, Focus Magazine, FHWA-HRT-08-010, January/February 2008.
- 'Intelligent Asphalt Compaction Analyzer' in Highways for LIFE Program Overview, PCPS Showcase Accelerating innovation for the American driving experience, Mt Arlington, NJ October 14, 2008.
- IACA, Asphalt Contractor Technology Partnerships, July 8, 2008.  
<http://www.forconstructionpros.com/online/Asphalt-News/Asphalt-Contractor-Technology-Partnerships/41FCP10363>
- IACA in ISSA Report, January 2008.  
<http://www.slurry.org/Newsletters/ISSAReport2007No4.pdf> Also in 'ACEC: Industry News', March 2008. [www.acec.org/publications/newsbriefs2008/in-032708.cfm](http://www.acec.org/publications/newsbriefs2008/in-032708.cfm).
- "University of Oklahoma project aims to help roads last longer," in The Oklahoma City Journal Record, November 18, 2008.

#### **D. Courses Taught**

1. ECE 5973 Biomechanics (Fall 2013, Fall 2014)
2. AME 3623 Embedded Real-Time Systems (Spring 2014).
3. ECE 2713 Digital Signals and Filtering (Spring 2002, Spring 2003).
4. ECE 4413 Control Systems Engineering (Fall 2002, Fall 2003, Fall 2009, Fall 2010, Fall 2011) (also co-listed as AME 4383 in Fall 2002, Fall 2003).
5. ECE 5043 Fuzzy Logic (Fall 2003).
6. ECE 5413 Control Theory (Spring 2004, Spring 2005).
7. AME 2623 Circuits and Sensors (Spring 2004, Spring 2005, Spring 2006, Spring 2007).
8. ECE 4973/5973 Robotics (Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008).
9. ECE 3793 Signals and Systems (Spring 2009, Spring 2010, Spring 2011, Spring 2012).
10. ECE 5973 Advanced Manipulation (Spring 2013) (Also co-listed as AME 5973/CS 5973)

## **E. Students Supervised**

### **Doctoral:**

1. Syed Imran (May 2016).  
Dissertation: Closed Loop Control of a vibratory compactor for intelligent compaction.
2. Fauzia Ahmed (December 2015).  
Dissertation: *Coordination and control of knee and ankle joints in a prosthetic leg.*
3. Anh T. Mai (December 2014).  
Dissertation: *Intelligent control of a prosthetic ankle joint.*
4. Phuong Pham (December 2012).  
Dissertation: *Learning in wireless sensor networks.*
5. Fares Beainy (November 2011).  
Dissertation: *Non-Contact sensor for the real-time measurement of the quality of asphalt pavements during their construction.*
6. Dharamveer Singh (Jointly with Prof. Musharraf Zaman) (October 2011).  
Dissertation: *A Laboratory investigation and modeling of dynamic modulus of asphalt mixes for pavement applications.*
7. Mohamed Watfa (July 2006).  
Associate Professor, University of Wollongong in Dubai.  
Dissertation: *Coverage issues in wireless sensor networks.*

### **Masters:**

1. Bhanu Prasad Kotamraju (May 2016)  
Thesis: Gait Analysis of people with unilateral trans-tibial and trans-femoral amputation.
2. Satish Palpunoori (December 2014)  
Thesis: Interactive Voice Response Systems.
3. Damian Viagaroux (January 2013).  
Thesis: Identification of the dynamics of a helicopter.  
Engineer, Halliburton, Houston, Texas.
4. Asif Imran (May 2012).  
Thesis: *Modeling and control of the compaction process.*  
Doctoral Candidate, University of Oklahoma, Norman, Oklahoma.
3. Harish Reddy Gadigota (December 2011).  
Thesis: *Development of a prosthetic activity monitor.*  
Embedded Software Engineer, EControls, San Antonio, Texas.
4. Sreekant Reddy Mallireddy (August 2011).  
Thesis: *Reconfigurable sensor node for imaging applications in wireless sensor networks.*  
Senior Analyst - Embedded Systems, Dell Computers, Peoria, Illinois.

5. Tandy Jones (August 2009).  
Systems Engineer, Federal Aviation Administration, Oklahoma City, Oklahoma.  
Thesis: *Development of a testbed for a reconfigurable manufacturing system.*
6. Gregario Balandran (April 2009).  
Automation Engineer, Spirit Airlines, Wichita, Kansas.  
Thesis: *Intelligent manufacturing approach to flexible problem solving.*
7. Madhu Pankaj (April 2009).  
Hardware Engineer, Caterpillar, Peoria, Illinois.  
Thesis: *Hardware accelerated implementation of a baseline grayscale JPEG encoder for a WSN using Xilinx Virtex-II Pro FPGA.*
8. Lee A. Sliger (2006).  
Systems Engineer, Raytheon, Tucson, Arizona.  
Thesis: *Application of dynamic partial reconfiguration for fault-correction in embedded systems.*
9. Viswanath Tadigotla (2006).  
Senior Research Engineer, Xilinx Inc., Longmont, Colorado.  
Thesis: *Design and implementation of reconfigurable mobile sensor node.*
10. Johann G. Nino (2005).  
Senior Software Engineer, PCI Systems, Norman, OK.  
Thesis: *Design and Development of a Real Time Neural Network-Based Compaction Analyzer.*
11. Deepa Yerrabommanahalli (2005).  
Senior Software Engineer, PCI Systems, Norman, OK.
12. Deji Fajebe (2005).  
Doctoral Candidate, Georgia Institute of Technology, Atlanta, GA.  
Thesis: *A software methodology for embedded intelligent systems.*
13. Ramanathan Muthuraman (2004).  
Senior Systems Engineer, Hewlett Packard, San Jose, California.  
Thesis: *An architecture for the implementation of intelligent unmanned ground vehicles (UGVs).*

#### **F. Funding**

1. PI, Volvo Construction Equipment Company, "Field evaluation of ICA," 1/2015 - 12/2015.
2. Co-I, OUHSC-Presbyterian Health Foundation Seed Grant, "Work-related Performance Characteristics in Men with TTAT at Risk for Residuum Injury," 10/1/2014 – 9/30/2015.
3. PI, Southern Plains Transportation Center, "Innovations in Construction of Climate Resilient Transportation Infrastructure," 10/2014 - 9/2016.
4. PI, Volvo Construction Equipment Company, "Intelligent Compaction of Pavements," 1/2014 - 12/2014.

5. PI, Volvo Construction Equipment Company, "Tech Transfer of Intelligent Compaction Analyzer," 1/2013 - 12/2013.
6. PI, Harrison Gypsum, "Design and Analysis of Concrete Mixers," 08/2012-05/2013.
7. PI, Speech-Soft, LLC, "Speech-enabled Interactive Voice Response (IVR)," 08/2012-05/2014.
8. PI, Oklahoma Department of Transportation, "Evaluation of Performance of Asphalt Pavements Constructed Using Intelligent Compaction Techniques," 10/2012-9/2014.
9. Co-PI, Oklahoma Department of Transportation, "Recommended Fatigue Test for Oklahoma Department of Transportation," 10/2012 -9/2013.
10. PI, Volvo Construction Equipment Company, "Continuous Compaction Control," 1/2012 - 12/2012.
11. PI, Volvo Construction Equipment Company, "Technology Transfer – Intelligent Asphalt Compaction Analyzer," 1/2012 - 12/2012.
12. PI, Oklahoma Department of Transportation, "New Asphalt Mix Design Program," 10/2011 - 9/2012.
13. PI, OTC (OK-OSU), "Pavement Evaluation using a Portable Lightweight Deflectometer," 10/2011 - 9/2012.
14. Co-PI, OTC (OK-OSU) and Oklahoma Department of Transportation, "Develop Draft Chip Seal Cover Aggregate Specifications Based on Aggregate Imaging System (AIMS) Angularity, Shape and Texture Test Results," 10/2011 - 9/2014.
15. Co-PI, OU Health Sciences, "Residual Limb Measures During Biomechanical Work-Related Activities in Adult Oklahomans with Unilateral Trans-tibial Amputation due to a Traumatic Event," 3/2011 – 2/2012.
16. Co-PI, Oklahoma Center for the Advancement of Science and Technology, "Residual Limb Measures During Biomechanical Work-Related Activities in Adult Oklahomans with Unilateral Trans-tibial Amputation due to a Traumatic Event," 8/2011 - 7/2013.
17. PI, Volvo Construction Equipment Company, "Continuous Real-Time Measurement of Quality During the Compaction of Subgrade Soils," 1/2011 - 12/2011.
18. PI, OTC (OK-OSU), "Pavement Evaluation using a Portable Lightweight Deflectometer," 10/2011 - 9/2012.
19. Co-PI, OTC (OK-OSU), "Improved Cover Aggregate Specifications to Enhance Chip Seal Performance," 10/2011 - 9/2013.
20. Co-PI, OTC (OK-OSU), "Enhancing Laboratory facilities in Asphalt Research and Education: Sharing to Gain," 6/2010 - 5/2011.
21. PI, OTC (OK-OSU), "Continuous Real-Time Measurement of Quality During the Compaction of Subgrade Soils," 6/2010 - 5/2012.
22. PI, Volvo Construction Equipment Company, "Continuous real-time measurement of pavement quality during construction," 1/2010 – 12/2010.
23. PI, Volvo Construction Equipment Company, "Refinement and Development of IACA," 7/2007 - 10/2008.
24. Co-PI, OK-EDGE, "Shape Engineering for Advanced Manufacturing," with Shivakumar Raman and others, 1/2009 - 12/2010.

25. PI, Volvo Construction Equipment Company, "Continuous real-time measurement of pavement quality during construction," 10/2008 - 9/2009.
26. PI, OTC (OK-OSU), "Continuous real-time measurement of pavement quality during construction," 10/2008 - 9/2009.
27. PI, Highways for Life (*Hfl*) program, Federal Highway Administration (FHWA), "Intelligent Asphalt Compaction Analyzer" 10/1/2007 - 9/30/2009.
28. PI, Volvo Construction Equipment Company, "Refinement and Development of IACA," 7/2007 - 10/2008.
29. PI, Cross disciplinary research grant, College of Engineering, OU, 5/2008 - 4/2009.
30. Co-PI, OK-TRAN, "Inter-modal Containerized Freight Security," with Sridhar Radhakrishnan and others, 5/2007 - 12/2008.
31. PI, GbG Energy Systems Inc., "Evaluation of Energy Optimizing Induction Motor Controls," 12/2006 - 03/2007.
32. Co-PI, Rockwell Collins Inc., "Hybrid Robust Control for Unmanned Aerial Vehicles," with Yunjun Xu, 1/2007 - 9/2007.
33. Co-PI, OK-TRAN, "Inter-modal Containerized Freight Security," with Sridhar Radhakrishnan and others, 7/2006 - 5/2007.
34. Co-PI, OK-TRAN, "Inter-modal Containerized Freight Security," with Sridhar Radhakrishnan and others, 3/2006 - 11/2007.
35. PI, ODOT, "Development of Field Calibration and Test Procedure for TransTech Systems' PQI 301 Non-Nuclear Density Gauge," with Musharraf Zaman, 7/2006 – 10/2006.
36. Co-PI, DEPSCoR (ARO), "Adaption and Learning at All Levels in Intelligent Robot Teams for Reconnaissance, Surveillance, and Battlefield Assessment," Co-PI with Dean Hougen, 7/2003-6/2006.
37. PI, ODOT, "A Field Testing Facility for Development of Intelligent Asphalt Compaction Analyzer," with Musharraf Zaman, 9/2004-9/2004.
38. PI, OU-VPR, "A Field Testing Facility for Development of Intelligent Asphalt Compaction Analyzer," with Musharraf Zaman, 11/2004-10/2005.
39. PI, OK-CAST, "Intelligent Asphalt Compaction Analyzer," with Musharraf Zaman, 9/2003 - 11/2006.
40. PI, Broce Construction, "Intelligent Asphalt Compaction Analyzer," with Musharraf Zaman, 9/2003-11/2006.
41. PI, CASI, DOD-AF, "Non-Contact 3-D Digitization Scanning Technology," 6/2002 – 7/2002.

Total Research Funding: **\$19,099,817**; Individual Research Expenditure: **\$2,660,253**.

## G. Publications

### G.1 Refereed Journal Papers (2002-2014)

#### Under Review

1. A. Mai and S. Commuri. (2014). "Robust Control of Prosthetic Ankle through the Integration of User Intent," IEEE Transactions on Control Systems Technology (submitted October, 2014).
2. Barman, M., Nazari, M., Imran, S.A., Commuri, S., and Zaman, M. "Application of Intelligent Compaction Technique in Real-Time Evaluation of Compaction Level During Construction of Subgrade," *ASCE Journal of Construction Engineering and Management*, (submitted March 2014).
3. Singh, D.V., Beainy, F., Commuri, S., and Zaman, M. (2013). "Application of Intelligent Compaction Technology for Estimation of Effective Modulus for a Multilayered Asphalt Pavement," *ASTM Journal of Testing and Evaluation*, JTE-2013-0305, (submitted November 2013; minor revisions submitted March 2014; accepted July 2014).
4. Beainy, F., Singh, D.V., Commuri, S., and Zaman, M. (2013). "Laboratory and Field Study on Compaction Quality of an Asphalt Pavement," *International Journal of Pavement Research and Technology (IJPRT)* (submitted October 2013; accepted July 2014).
5. A. Mai and S. Commuri. (2013). "Intelligent Control of a Prosthetic Ankle Joint," J.A. Cetto et al. (Eds.): *Informatics in Control, Automation and Robotics, Lecture Notes in Electrical Engineering*, Springer Verlag, Berlin (submitted October, 2013; accepted August 2014; to appear 2015).

#### 2014

6. Beainy, F., Commuri, S., Imran, S., and Zaman, M. (2014). Closure to discussion on "A visco-elastic-plastic model of asphalt/roller interaction," *ASCE International Journal of Geomechanics*, 10.1061/(ASCE)GM.1943-5622.0000426, 07014004, June 2014.  
[http://dx.doi.org/10.1061/\(ASCE\)GM.1943-5622.0000426](http://dx.doi.org/10.1061/(ASCE)GM.1943-5622.0000426)
7. Dionne, CP., Ertl, WJJ., Day, JD., Commuri, S., Smith, BJ., Regens, JL. "Cross-sectional study of residuum measures during gait and work-related activities in men with trans-tibial amputation due to a traumatic event," *Journal of Prosthetics and Orthotics*, vol. 26, no. 3, pp. 128-133, 2014.

#### 2013

8. Beainy, F., Commuri, S., and Zaman, M. (2013). A visco-elastic-plastic model of asphalt/roller interaction during field compaction," *ASCE Journal of Engineering Mechanics*, 10.1061/(ASCE)EM.1943-7889.0000730 (Oct. 16, 2013) [http://dx.doi.org/10.1061/\(ASCE\)EM.1943-7889.0000730](http://dx.doi.org/10.1061/(ASCE)EM.1943-7889.0000730)
9. Mai, A., Commuri, S., Dionne, C., Day, J., Ertl, W., and Regens, J. (2013). "Effect of prosthetic feet on end-bearing characteristics in users with Transtibial Osteomyoplastic Amputation,"

*International Journal of Prosthetics and Orthotics*, Volume 25, Issue 3, pp. 151-158, July 2013.

10. Beainy, F., Commuri, S., Imran, S., and Zaman, M. (2013). "A visco-elastic-plastic model of asphalt/roller interaction," *ASCE International Journal of Geomechanics*, 13(5), 581–594. [http://dx.doi.org/10.1061/\(ASCE\)GM.1943-5622.0000240](http://dx.doi.org/10.1061/(ASCE)GM.1943-5622.0000240)
11. Singh, D.V., Zaman, M., and Commuri, S. (2013). "Effects of Production and Sample Preparation Methods on Aggregate Shape Parameters," *International Journal of Pavement Engineering*, Volume 14, Number 2, pp. 154-175(22).
12. Singh, D.V., Zaman, M., and Commuri, S. (2013). "Artificial Neural Network Modeling of Dynamic Modulus Using Aggregate Shape Properties" *Journal of Materials in Civil Engineering*, 25(1), 54–62.

## 2012

13. Mai, A., Commuri, S., Dionne, C., Day, J., Ertl, W., and Regens, J. "Effect of Prosthetic Feet on End-bearing Characteristics in an otherwise Healthy Male with Transtibial Osteomyoplastic Amputation," *International Journal of Prosthetics and Orthotics*, vol. 24, no. 4, pp. 211-220, October 2012.
14. Singh, D.V., Zaman, M., and Commuri, S. (2012). "Inclusion of Aggregate Angularity, Texture, and Form in Estimating Dynamic Modulus of Asphalt Mixes," *International Journal of Road Materials and Pavement Design*, vol. 13, issue 2, pages 327-344.
15. Singh, D.V., Zaman, M., and Commuri, S. (2012). "A Laboratory Investigation into the Effect of Long- Term Oven Aging on RAP Mixes Using Dynamic Modulus Test," *International Journal of Pavement Research and Technology*, vol. 5, no. 3, pp. 142-152.
16. Singh, D.V., Zaman, M., and Commuri, S. (2012). "Comparison of Shape Parameters for Selected Coarse Aggregates in Oklahoma," *ASTM Journal of Testing and Evaluation*, paper ID # JTE104455, Volume 40, Issue 3, pp. 1-18.
17. F. Beainy, S. Commuri, and M. Zaman, (2012). "Quality assurance / Quality control during the construction of hot mix asphalt pavements," *ASCE Journal of Construction Engineering and Management*, vol. 138, no. 2, pp. 178-187.
18. Singh, D.V., Zaman, M., and Commuri, S. (2012). "Evaluation of Dynamic Modulus for Modified and Unmodified Asphalt Mixes on Different Input Levels of the MEPDG," *International Journal of Pavement Research and Technology*, vol. 5, no. 1, pp. 1-11.
19. Singh, D.V., Zaman, M., and Commuri, S. (2012). "Comparison of Shape Parameters for Different Types and Sizes of Coarse Aggregates for Pavement Applications," *Journal of Transportation Research Board*, pages 1-19.

## 2011

20. Singh, D.V., Zaman, M., and Commuri, S., "Evaluation of Measured and Estimated Dynamic Moduli for Selected Asphalt Mixes," *Journal of ASTM International (JAI)*, vol. 8, no.9, pages 1-19, July 2011.

21. Singh, D.V., Zaman, M., and Commuri, S. "Evaluation of Predictive Models for Estimating Dynamic Modulus of HMA Mixes Used in Oklahoma," *Journal of Transportation Research Record*, Washington, D.C., no. 2210, vol. 4, pp. 57-72, 2011.
22. Singh, D.V., Mai, A.T., Beainy, A.F., Commuri, S., and Zaman, M.M. "In-Situ Assessment of Stiffness during Construction of an HMA Pavement," *International Journal of Pavement Research and Technology*, Vol.4, Issue: 3, pp. 131-139, May 2011.
23. P. Pham and S. Commuri, "Distributed Kalman Filter-based target tracking in wireless sensor networks," J.A. Cetto et al. (Eds.): Informatics in Control, Automation and Robotics, *Lecture Notes in Electrical Engineering*, LNEE 89, Springer-Verlag, Berlin, pp. 349–362.
24. S. Commuri, A.T. Mai, and M. Zaman, "Neural Network-based Intelligent Compaction Analyzer for Estimating Compaction Quality of Hot Asphalt Mixes," *ASCE Journal of Construction Engineering and Management*, vol. 137, issue 9, pages 633-715, September 2011.

## 2010

25. S. Commuri, J. Day, D.P. Dionne, W.J.J. Ertl, "Assessment of pressures within the prosthetic socket of a person with osteomyoplastic amputation during varied walking tasks," *International Journal of Prosthetics and Orthotics*, vol. 22, issue 2, pages 127-137, April 2010.

## 2009

26. N.M. Wasiuddin, M. Zaman, and S. Commuri, "Calibration of non-nuclear PQI gauges and field comparison of PQI and nuclear gauge densities," *International Journal of Pavement Research and Technology*, vol. 2, no. 5, pages 181-187, September 2009.
27. S. Commuri, A.T., Mai, and M. Zaman, "Calibration Procedures for the Intelligent Asphalt Compaction Analyzer," *ASTM Journal of Testing and Evaluation*, vol. 37, no. 5, pages 454-462, September 2009.
28. M. Watfa and S. Commuri, "Energy Efficient Approaches to the Border Coverage Problems in Wireless Sensor Networks", *IEEE Journal of Communications and Networks (JCN)*, vol. 11, No.1, pages 57-71, February 2009.
29. S. Commuri and R. Fierro, "Guest Editorial: **Special Issue on Unmanned Autonomous Vehicles**," *Journal of Intelligent Robotic Systems*, vol. 56, no. 1-2, September 2009.

## 2008

30. S. Commuri and M. Zaman, "Neural Network Based Compaction Analyzer for Density Measurement during the Construction of an Asphalt Pavement," *International Journal of Pavement Engineering*, 9:3, pages 177-188, June 2008.
31. S. Commuri, V. Tadigotla, and M. Atiquzzaman, "Reconfigurable Hardware based Dynamic Data Aggregation in Wireless Sensor Networks," eds. A. Durresi, and L. Barolli, *Special Issue on Heterogeneous Wireless Ad Hoc and Sensor Networks*, International Journal of Distributed Sensor Networks, vol. 4, issue 2, pages 194 – 212, April 2008.

32. M. Watfa and S. Commuri, "An Energy Efficient and Self-Healing 3-Dimensional Sensor Cover", *International Journal of Ad Hoc and Ubiquitous Computing (IJAHUC)*, vol. 3, no. 1, pp. 33-47, 2008.

## 2007

33. M. Watfa and S. Commuri, "Boundary Coverage and Coverage Boundary Problems in WSNs", *International Journal on Sensor Networks, Special Issue on Theoretical and Algorithmic Aspects in Sensor Networks*. (Guest Editors: Dr. Xiuzhen (Susan) Cheng, The George Washington University and Dr. Yingshu Li, Georgia State University), vol. 2, nos. 3/4, pp. 275-285, 2007.
34. S. Commuri, V. Tadigotla, and L. Sliger, "Dynamic Reconfiguration of Intelligent Robot Teams," *International Journal of Intelligent and Robotic Systems*, vol. 49, no. 2, pp. 111-134, June 2007. (Also in *Springer Open Choice, International Journal of Intelligent and Robotic Systems, March 2007, Article DOI: 10.1007/s10846-007-9131-3*).
35. V. Tadigotla and S. Commuri, "Design and Implementation of Reconfigurable Mobile Sensor Systems," *WSEAS Transactions on Systems*, issue 2, vol. 6, pp. 400 – 408, February 2007.

## 2006

36. V. Tadigotla and S. Commuri, "Efficient Implementation of Imaging filters using Partially Reconfigurable FPGAs", *WSEAS Transactions on Signal Processing*, issue 11, vol. 2, pp. 1448-1456, November 2006.
37. S. Commuri and M. Watfa, "Coverage strategies in 3D wireless Sensor Networks", *International Journal of Distributed Sensor Networks*, vol. 2, no. 4, pp. 333-353, October-December 2006.
38. M. Watfa and S. Commuri, "An Energy Efficient Approach to Dynamic Coverage in Wireless Sensor Networks", *Journal of Networks*, vol. 1, issue 4, pp. 10 – 20; August 2006.

## G.2 Other Publications

39. S. Jagannathan, S. Commuri, and F.L. Lewis, "CMAC Control of a Feedback Linearizable Nonlinear Systems ", *Automatica*, vol.34, no.5, pp. 547-557, May 1998
40. S. Commuri and F.L. Lewis, "A New Methodology for the Design of Adaptive Controllers using "State-Strict Passivity": Application to Neural Network Controllers, in Special Issue: New Directions in Control and Automation II, *Kybernetika*, vol. 33, no. 1, pp. 1-16, 1997.
41. S. Commuri, S. Jagannathan, and F.L. Lewis, "CMAC Neural Network Control of Robot Manipulators," *Journal of Robotic Systems*, 14(6), 465-482, 1997.
42. S. Commuri and F.L. Lewis, "CMAC Neural Networks for Control of Nonlinear Dynamical Systems: Structure, Stability, and Passivity", *Automatica*, March 1996.
43. S. Commuri and A. Ghosh, "Optimum Path Planning for Robot Manipulators Amid Static and Dynamic Obstacles", *IEEE Trans. Sys. Man. Cyber.*, pp. 576 - 584, vol. 23, no. 2, March 1993.

### G.3 Book Chapters

44. S. Commuri, J. Albus, and A. Barberra, "Intelligent Systems," in *Autonomous Mobile Robots: Sensing Control, Decision Making and Applications*, ed. S.S. Ge and F.L. Lewis, Marcel Dekker, pp.660–700, 2006.
45. R. Fierro, J. Clark, D. Houghton, and S. Commuri, "A multi-robot testbed for biologically-inspired cooperative control," in *Multi-Robot Systems. From Swarms to Intelligent Automata*, Volume III, L. E. Parker, F. E. Schneider, and A. C. Schultz (eds.), Springer, pp. 171-182, 2005.
46. F.L. Lewis, S. Commuri, and K.Liu, "Neural Networks and Fuzzy Logic Systems for Robot Control," in *Fuzzy Logic and Neural Network Applications*, ed. F. Wang, Intelligent Control and Automation Series, World Scientific Publishing, 1997.
47. S. Commuri and F.L. Lewis, "CMAC Neural Networks for Control Applications," *Encyclopedia of Electrical and Electronics Engineering*, ed. John G. Webster, John Wiley and Sons, 1997.

### G.5 Patents

1. Sesh Commuri and Musharraf Zaman (2013). "Method and apparatus for determining the stiffness of a roadway," USPTO application number 61/621,259, filed April, 2013.
2. Sesh Commuri and Musharraf Zaman (2013). "Method and apparatus for determining the stiffness of a roadway," ref. 68930.160, PCT Application No. PCT/US2013/035504, November 2013.
3. S. Commuri, "An apparatus to digitize residual limb of an amputee and a device to test a prosthetic socket for fit," Invention Disclosure 13NOR002, Office of Technology Development, University of Oklahoma, Norman, OK, July 2012.
4. S. Commuri, "An apparatus to design the sole for orthotic footwear," Invention Disclosure 13NOR005, Office of Technology Development, University of Oklahoma, Norman, OK, July 2012.
5. S. Commuri and F. Beainy "Model of compactor-pavement interaction for closed loop control of vibratory compactors," Invention Disclosure 12NOR012, Office of Technology Development, University of Oklahoma, Norman, OK, November 2011.
6. S. Commuri and M. Zaman, "A method to determine the effective modulus of an asphalt pavement during its construction," Invention Disclosure 11NOR049, Office of Technology Development, University of Oklahoma, Norman, OK, August 2010 (PCT/US13/35504, April 05, 2013).
7. S. Commuri and M. Zaman, "Method and apparatus for predicting the density of asphalt," USPTO, 7,669,458, March 02, 2010.
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## G.6 Refereed Conference Papers

1. Singh, D.V., Beainy, F., Zaman, M., Commuri, S. (2014). "Application Of Intelligent Compaction Technology For Estimation Of Effective Modulus For A Multilayered Asphalt Pavement," GSP 249: Recent Developments in Evaluation of Pavements and Paving Materials Geo-Hubei 2014, Edited by Rafiqul A. Tarefder, Jiong Hu, Musharraf Zaman, and Dar-Hao Chen, ISBN (print): 978-0-7844-7849-3, Publisher: American Society of Civil Engineers.
2. Barman, M., Ghabchi., R., Singh, D. V., Zaman, M., and Commuri, S. (2014). "Evaluation of Fatigue Performance of Asphalt Mixes Using Semi-Circular Bend and Four Point Beam Fatigue Test Methods," in the 14th International Conference of the International Association for Computer Methods and Advances in Geomechanics, Kyoto, Japan, September 22-25, 2014.
3. Imran, S.A., Beainy, F., Commuri, S., and Zaman, M., " Dynamical Model of Asphalt-Roller Interaction During Compaction," ICINCO - 11th International Conference on Informatics in Control, Automation and Robotics, paper ID# 210, Vienna, Austria, September 1-3, 2014.
4. Barman, M., Nazari, M., Imran, S.A., Commuri, S., and Zaman, M. "Application of Intelligent Compaction Technique in Real-Time Evaluation of Compaction Level During Construction of Subgrade," *Transportation Research Record 93th Annual Meeting*, Washington, D.C., Paper #14-5183, January 2014.
5. A. Mai and S. Commuri. (2013). "Intelligent Control of a Prosthetic Ankle Joint," ICINCO - 10th International Conference on Informatics in Control, Automation and Robotics, paper ID# 181, Reykjavik, Iceland (**Nominated for Best student Paper Award**).
6. D. Vigouroux, F. Beainy and S. Commuri. (2013). "Identification of Orientation Dynamics of Miniature Helicopter in Hover Mode," ICINCO - 10th International Conference on Informatics in Control, Automation and Robotics, paper ID# 128, Reykjavik, Iceland.
7. P. Pham and S. Commuri. (2013). "Enhancing the Life Time of a Wireless Sensor Network in Target Tracking Applications," ICINCO - 10th International Conference on Informatics in Control, Automation and Robotics, paper ID# 84, Reykjavik, Iceland.
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10. S. Imran, F. Beainy, S. Commuri, and M. Zaman. (2012). "Transient Response of a Vibratory Roller during Compaction," 51<sup>st</sup> IEEE Conference on Decision and Control, pp. 4378-4383, Maui, Hawaii.
11. P. Pham, A. Mai, and S. Commuri. (2012). "Mobile Robots Assisted Target Tracking in Wireless Sensor Networks," IEEE Globecom, Anaheim, California, paper ID. #1569633143.

12. Mai, A., Commuri, S., Dionne, C., Day, J., and Ertl, W. (2012). "Residual Muscle Contraction and Prosthetic Socket Interface Force in a Transtibial Amputee upon the Osteomyoplastic Procedure – A Preliminary Study," 2012 IEEE ISSNIP Biosignals and Biorobotics Conference: Biosignals and Robotics for Better and Safer Living, Manaus, Brazil, pp. 1-6.
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14. D.V. Singh, M. Zaman, and S. Commuri. (2011). "Laboratory Performance Evaluation of Hot Mix Asphalt Mixes with RAP," presented at *International Symposium on Testing and Specification of Recycled Materials for Sustainable Geotechnical Construction*, February 2-4, Baltimore, Maryland.
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17. D.V. Singh, M. Zaman, and S. Commuri. (2011). "Comparison of Hierarchical Levels of MEPDG for Predicting Dynamic Modulus of Asphalt Mix," *Proceeding of 13<sup>th</sup> International Conference of International Association for Computer Methods and Advances in Computational Mechanics (IACMAG2011)*, Melbourne, Australia May 9-11.
18. D.V. Singh, M. Zaman, and S. Commuri. (2010). "Effect of Sample Preparation Method on Aggregate Shape Characteristics," *Proc. 61st Highway Geology Symposium*, Oklahoma City.
19. D.V. Singh, A. Mai, F. Beainy, S. Commuri, and M. Zaman. (2010). "In Situ Measurement of the Stiffness during the Construction of a HMA Pavement," *Transportation Research Record 89th Annual Meeting, CD-ROM Publication*, Paper No. 10-3533, January 10-14, Washington, D.C.
20. F. Beainy and S. Commuri, "Asphalt Compaction Quality Control Using Artificial Neural Network," *Proceedings of the 49th IEEE Conference on Decision and Control*, Atlanta, Georgia, pp. 4643-4648, 15-17 December 2010.
21. P. Pham and S. Commuri, "Distributed Kalman filter-based target tracking in wireless sensor networks," in the *Proceedings of the International Conference on Informatics in Control, Automation, and Robotics, ICINCO 2010*, Funchal, Portugal, paper # 278, June 2010. **(Recipient of the Best Paper Award in Signal Processing, Systems Modeling and Control).**
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24. S. Commuri and A.T. Mai, "Field Validation of the Intelligent Asphalt Compaction Analyzer," 17th Mediterranean Conference on Control & Automation, Thessaloniki, Greece, pp. 651-656, Jun 24 - 26, 2009.
25. S. Commuri, F. Beainy, and A.T. Mai, "Unmanned Aerial Vehicles Operational Requirements and Fault-Tolerant Robust Control in Level Flight," 17th Mediterranean Conference on Control & Automation, Thessaloniki, Greece, pp. 700-705, Jun 24 - 26, 2009.
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33. S. Commuri, V. Tadigotla, and L. Sliger, "FPGA-Based design of Intelligent Robot Teams," Proceedings of the IEEE International Symposium on Intelligent Control, Munich, Germany, pp. 1220-1225, October 2006.
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### **G.7 Presentations**

1. Commuri, S., and Zaman, M. (2013). "Intelligent Compaction – OU Experience," EDC - Intelligent Compaction Task Force Meeting, FHWA-Oklahoma Division, U.S. Department of Transportation, Oklahoma City, OK, September 05, 2013.
2. Nazari, M., Imran, S.A., Barman, M., Singh, D. V., Commuri, S., and Zaman, M. (2013). "Characterization of Resilient Modulus for Chemically Stabilized Pavement Subgrade," in GPiS 2013, Oklahoma University, Oklahoma, Norman OK, April 05, 2013.
3. Nazari, M., Barman, M., Imran, S.A., Commuri, S., and Zaman, M. (2013). "Application of ICA in Real Time Evaluation of Stiffness during the Compaction of Stabilized Subgrade," in ODOT-OTC Research Day, Department of Transportation, Oklahoma, September 12, 2013.
4. Barman, M., Ghabchi, R., Singh, D.V., Zaman, M. and Commuri, S. (2013). "Evaluation of Fatigue Performance Testing Procedures using Virgin and Reclaimed Asphalt Mixes," in ODOT-OTC Research Day, Department of Transportation, Oklahoma, September 12, 2013.
5. Beainy, F., Singh, D.V., Gadigota, H., Imran, A., Commuri, S., and Zaman, M. (2011). "Intelligent Compaction of Asphalt Pavements and Soil Subgrade," 2nd Annual Summer Symposium, Oklahoma Transportation Center, Oklahoma.
6. Singh, D.V., Zaman, M., and Commuri, S. (2011). "Application of AIMS to Identify Change in Aggregate Shape Characteristics" *Student Research and Performance Day*, The University of Oklahoma.
7. Singh, D.V., Zaman, M., and Commuri, S. (2011). "Use of Aggregate Imaging System (AIMS) for Measuring the Aggregate Shape Parameters" *BGSA Graduate Student Research Symposium*, The University of Oklahoma.

8. Singh, D.V., Commuri, S., and Zaman, M. (2010). "Continuous Real-Time Measurement of Pavement Quality During Construction" *ODOT-OTC Research Day*, Department of Transportation, Oklahoma. **(Awarded 1st Prize)**.
9. Singh, D.V., Commuri, S., and Zaman, M. (2010). "Measurement of Stiffness of Pavement Using Intelligent Asphalt Compaction Analyzer" *Student Research and Performance Day*, The University of Oklahoma.
10. Singh, D.V., Mai, A., Fares, B., Commuri, S., Zaman, M. (2009) "In Situ Measurement of Stiffness During Construction of HMA Pavements", *ODOT-OTC Research Day, Oklahoma Department of Transportation*, Oklahoma City, Oklahoma.
11. Singh, D.V., Commuri, S., and Zaman, M. (2009) "Measurement of Compaction Level of Pavement by Intelligent Asphalt Compaction Analyzer (IACA)," *Student Research and Performance Day*, The University of Oklahoma.
12. S. Commuri, J. Day, C. Dionne, and W.J.J. Ertl, "Assessment of pressures within the prosthetic socket of a person with osteomyoplastic amputation during varied walking tasks," Boston National APTA Conference, June 2010.
13. S. Commuri, "Advances in Intelligent Prosthetics," presented at the Ertl Symposium, OU-HSC, University of Oklahoma, April 2010.
14. D. Singh, A. Mai, F. Beainy, S. Commuri, and M. Zaman, "In Situ Measurement of Stiffness during the Construction of HMA Pavements," presented at the TRB 89th Annual Meeting, Washington, DC., paper # 10-3533, January 10-14, 2010.
15. S. Commuri, A.T. Mai, M. Zaman, "Calibration Procedures for the Intelligent Asphalt Compaction Analyzer," 3rd International Conference on Asphalt Materials, Shandong, China, August 2009.
16. S. Commuri, M. Zaman, 'Advances in Intelligent Compaction - An Overview of Intelligent Asphalt Compaction Analyzer' at FHWA, Virginia Transportation Research Center, McLean, VA, January 06, 2009.
17. S. Commuri, M. Zaman, Highways for LIFE Technology Transfer Program - Field Validation of Intelligent Asphalt Compaction Analyzer, presented at the TRB 88th Annual Meeting, Washington, DC., January 11-15, 2009.
18. S. Commuri, M. Zaman, 'Performance Validation of the Intelligent Asphalt Compaction Analyzer' at the Workshop on Intelligent Construction for Earthworks, EERC, Iowa Department of Transportation, Des Moines, IA, April 14-16, 2009.
19. S. Commuri, "A new approach for asphalt IC," Second Annual Workshop on Intelligent Construction for Earthworks, Iowa Department of Transportation, Des Moines, IA, April 14-16, 2009.
20. S. Commuri, "New approaches to intelligent compaction," Highways for LIFE – Technology Partnerships Program, Annual Meeting of the Transportation Research Board, Washington DC, January 2009.
21. S. Commuri, "Intelligent Compaction Analyzer," Highways for LIFE – Technology Partnerships Program, Virginia Transportation Research Center, McClean, VA, January 2009.
22. S. Commuri, M. Zaman, 'Intelligent Compaction of Asphalt Pavements' presented to the Asphalt Quality Improvement Task Force, Oklahoma City, OK, April 07, 2009.

23. S. Commuri, D. Singh, A. Mai, F. Beainy, M. Zaman 'Intelligent Asphalt Compaction: Quality and Statistical Measures,' poster presented at the 2009 ODOT-OTC Transportation Research Day, Oklahoma City, OK, October 7, 2009.
24. S. Commuri, Residual limb weight bearing during gait of an individual with an osteomyoplastic transtibial amputation, presented at the Ertl Symposium, OU-HSC, University of Oklahoma, April 2009.
25. S. Commuri, "Field Evaluation of the IACA," Highways for LIFE – Technology Partnerships Program, Annual Meeting of the Transportation Research Board, Washington DC, January 2008.
26. S. Commuri, "Field Evaluation of Intelligent Asphalt Compaction Analyzer," Oklahoma Department of Transportation, October 2008.
27. **(Invited) Panelist**, Towards Global Execution Effectiveness, MESA Plant2Enterprise Conference, Orlando, September 2005.
28. S. Commuri, S. Radhakrishnan, Adaptive computing Systems using mobile Ad-Hoc Grid Networks, CBMANET, DARPA Preproposers Conference, Arlington, VA, September 2005.
29. R. Fierro, D. Hougen, S. Commuri, Adaptation and Learning at All Levels (AL<sup>2</sup>) in Intelligent Robot Teams, Workshop on Swarming in Natural and Engineered Systems, Napa Valley, California, August 3-4, 2005.
30. MESA 2005 Plant2Enterprise Conference, Orlando, September 2005 (Invited Panelist). Intelligent Control and Applications using Matlab, del DÍA MATLAB 2005, Universidad el Bosque, Bogotá, Columbia, August 2005.
31. Intelligent Asphalt Compaction, Oklahoma Transportation Center Workshop, Oklahoma City, OK, April 2005.
32. Workshop on Smart Embedded Systems for Control, *2003 IEEE International Symposium on Intelligent Control*, Houston, TX, October 2003.

## G.8 Reports

1. Commuri, S., Zaman, M., Barman, M., Nazari, M., and Imran, S.A.(2013). "Evaluation of Performance of Asphalt Pavements Constructed Using Intelligent Compaction Techniques," Final Report for project ODOT SP&R Item #2246, submitted to Oklahoma Department of Transportation, Oklahoma City, USA, October 2014.
2. Commuri, S., Zaman, M., Beainy, F., Singh, D.V., Nazari, M., Imran, S.A., and Barman, M. (2013). "Pavement Evaluation Using a Portable Lightweight Deflectometer," OTCREOS11.1-14-F, Final Report submitted to the Oklahoma Transportation Center, pages 1-47, June 2013.
3. Commuri, S., Zaman, M., Barman, M., Nazari, M., Imran, S.A., Beainy, F., and Singh, D.V. (2013). "Real-time measurement of quality during the compaction of subgrade soils," OTCREOS10.1-11-F, Final Report submitted to the Oklahoma Transportation Center, pages 1-90, July 2013.
4. Commuri, S., Zaman, M., Barman, M., Nazari, M., Imran, S.A., and Beainy, F. (2013). "Evaluation of Performance of Asphalt Pavements Constructed using Intelligent

- Compaction Techniques," Annual Report for project ODOT SP&R Item #2246, submitted to Oklahoma Department of Transportation, Oklahoma City, USA, pages 1-72, October 2013.
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  6. Commuri, S., Beainy, F., and Imran, S.A. (2013) "Continuous Control of Vibratory Compactors for Intelligent Compaction of Asphalt Pavements," submitted to Volvo Construction Equipment, Shippensburg, PA, USA, pages 1-20, August 2013.
  7. Zaman, M., Commuri, S., Barman, Ghabchi, R., and Singh, D.V. (2013). "Recommended Fatigue Test for Oklahoma Department of Transportation," Annual Report for project ODOT SP&R Item #2243, submitted to Oklahoma Department of Transportation, Oklahoma City, USA, pages 1-60, October 2013.
  8. S. Commuri, "Final report for assistance agreement DTFH61-08-G-0002," submitted to the Federal Highway Administration, Highways for LIFE Technology Partnerships Program, June 2010.
  9. S. Commuri, "Detailed work plan for assistance agreement DTFH61-08-G-0002," report presented to the Federal Highway Administration, Highways for LIFE Technology Partnerships Program, March 2009.
  10. S. Commuri, "User Manual: Intelligent Asphalt Compaction Analyzer," submitted to the Federal Highway Administration, Highways for LIFE Technology Partnerships Program, May 2009.
  11. S. Commuri, "Phase I progress report for assistance agreement DTFH61-08-G-0002," submitted to the Federal Highway Administration, Highways for LIFE Technology Partnerships Program, February 2009.
  12. S. Commuri, "Q1-09 Quarterly progress report for assistance agreement DTFH61-08-G-0002," submitted to the Federal Highway Administration, Highways for LIFE Technology Partnerships Program, April 2009.
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  16. S. Commuri, "Energy Optimizing Induction Motor Controls," GbG Energy Systems, March 2007.
  17. S. Commuri and M. Zaman, "Intelligent Asphalt Compaction Analyzer – Final Report," OCAST, February 2007.

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#### **H. Professional Service**

Member IEEE

Editor-at-Large, Journal of Intelligent and Robotic Systems (Area Editor 2006-2012).

Committee Member, FHWA Oklahoma City Intelligent Compaction Task Force. (June 2013 - Present).

Member, American Association of Pavement Technologists. (January 2013 - Present).

Member, International Program Committee, ICINCO2015 – 12th International Conference on Informatics in Controls, Automation and Robotics, Colmar, Alsace, France, July 21-23, 2015.

Member, International Program Committee, ICINCO2014 – 11th International Conference on Informatics in Controls, Automation and Robotics, Vienna, Austria, September 1-3, 2014.

Member, International Program Committee, ICINCO2014 – 11th International Conference on Informatics in Controls, Automation and Robotics, Vienna, Austria, September 1-3, 2014.

**Invited Sessions Chair**, 2011 *IEEE Multi Systems Conference* to be held in Denver, CO, September 28-30, 2011.

Session Co Chair, Fault Tolerant Systems, 17th Mediterranean Conference on Control & Automation, Thessaloniki, Greece, Jun 24 - 26, 2009.

Session Co-Chair, Fault-Tolerant Control, 17th Mediterranean Conference on Control & Automation, Thessaloniki, Greece, Jun 24 - 26, 2009.

Associate Editor, IEEE Multi-conference on Systems and Control, Suntec City, Singapore, October 2007.

Member, International Program Committee, IEEE Symposium on Intelligent Control, Munich, Germany, October 2006.

International Program Committee Member, 2006 IEEE International Conference on Networking, Sensing and Control, Ft. Lauderdale, Florida, April 2006.

Session Chair, Special Session on Subsurface Sensing and Imaging, IEEE ICNSC 2006.

Session Chair, Wireless Sensor Networks for Intelligent Systems, ISIC 2006.

Session Chair, Intelligent Systems and Intelligent Control, ISIC 2006.

Member, Technical Program Committee, WiQoS2005, IEEE WirelessCom 2005 Conference.  
Chair, Systems and Control session, SAE Earthmoving Conference, 1997, 1998, and 1999.

*Reviewer:*

IEEE Transactions on Control Systems Technology; IEEE Transactions on Neural Networks;  
IEEE Transactions on Systems, Man, and Cybernetics; International Computer Aided  
Engineering; International Journal of Robotics and Intelligent Systems; International Journal  
of Field Robotics; Robotica; Elsevier Computer Communication Journal; Journal of  
Supercomputing ASME Journal of Manufacturing Science and Engineering; Mathematical  
Problems in Engineering

*University/Department Service*

Member, University Research Council, 2014-2017  
Chairman, Graduate Studies Committee, 2013 -  
Member, Committee 'A', 2010 - 2012  
Member, OU Instructional Development Program, 2002 - 2007  
Student Mentor, Adopt-a-faculty Program, 2006-2008  
Member, Undergraduate Committee, 2007-2010.

I have mentored several disadvantaged/minority students and recruited minority students to the graduate program in ECE. I also helped the student to obtain a (nationally competitive) GEM fellowship to pursue higher education.