

TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Clara M. Novoa

Title: Associate Professor
 Ingram School of Engineering
 Industrial Engineering (IE) Program
 Texas State University – San Marcos

B. Educational Background

Degree	Year	University	Major	Thesis/Dissertation
Ph.D.	2000-2005	Lehigh University, Bethlehem, PA.	Industrial Engineering GPA 3.97	Static and Dynamic Approaches for Solving the Vehicle Routing Problem with Stochastic Demands.
M.E.	1989-1991	University of Puerto Rico, Mayaguez, PR.	Industrial Engineering GPA 4.0	A Decomposition Approach for the Design of Manufacturing Systems with Centralized Work-in-Process Storage and Limited Buffers.
B.S.	1982-1986	Universidad de los Andes, Bogotá, Colombia.	Industrial Engineering	A Systems Thinking Approach to Manage the Maintenance of Equipments at the Hospital Lorenzita Villegas de Santos.

C. University Experience

Position	University	Dates
Associate Professor	Texas State University, San Marcos, TX. Ingram School of Engineering Industrial Engineering Program	September 2011 - Present
Assistant Professor	Texas State University, San Marcos, TX. Ingram School of Engineering Industrial Engineering Program	September 2005 – August 2011
Teaching Assistant	Lehigh University, Bethlehem, PA. Department of Industrial and Systems Engineering	September 2003 – May 2005
Teaching Instructor	University of Puerto Rico - Mayaguez. Department of Industrial Engineering	July 1995 – May 2000

D. Relevant Professional Experience

Position	Entity	Dates
Software Developer (Summer intern)	Fraunhofer Institute of Material Flow and Logistics, Dortmund, Germany.	May 2002 – July 2002
Quality Manager	Hanes Menswear, Inc., Ponce, PR.	Nov 1992 – April 1995
Staff Engineer	Hanes Menswear, Inc., Ponce, PR.	August 1991 – Oct 1992
Economic Analyst	Colpatria Insurance Company, Bogotá, Colombia.	June 1987 – July 1989

E. Other Professional Credentials (licensure, certification, etc.)

II. TEACHING

A. Teaching Honors and Awards:

- “Graduating Student Recognition of Campus Support Program”. Named by more than five alumni from the School as one of the faculties that contributed significantly to their success and development. (Spring 11, Fall 09, Fall 08, Fall 07)

B. Courses Taught:

1. IE 3360 Methods Engineering and Ergonomics (for Manufacturing and Industrial Engineers). Spring 11
2. IE 4390 Internship. Fall 10, Spring 11.
3. IE 3340 Operations Research. Fall 11, Spring 11, Fall 10, Spring 10, Fall 09, Spring 09, Spring 08, Spring 07.
4. IE 4340 Optimization Techniques. Fall 11, Fall 10, Fall 08, Fall 07.
5. IE 4350 Supply Chain Engineering. Spring 09, Spring 08.
6. TECH 5384 Problems in Technology. Spring 09.
7. CS 5395 Independent Study in Computer Science. Spring 08.
8. ENGR 3315-TECH 5315 Engineering Economy undergraduate and graduate. Fall 07, Spring 07, Spring 06.
9. TECH 4345 Methods Engineering and Ergonomics (for manufacturing engineers and technology majors). Fall 06, Fall 05.
10. TECH 3364 Quality Assurance. Fall 06, Spring 06, Fall 05.

C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):

1. Rashid, H. A. M.S. Computer Science. “Parallel Knapsack Algorithms on Multicore Systems”. Co-supervisor. Fall 09 – Spring 10.
2. Lowell, D. I. M.S. Computer Science. “Software Cache in Global Heuristic Searches”. Co-supervisor. Spring 08 – Spring 10.
3. Vejanla, D. T. M.S. Engineering Technology. “Optimizing the Automated Plasma Cutting Process by Design of Experiment”. Committee member. Fall 08 – Spring 09.
4. Putra, H. C. M.S. Engineering Technology. “Using Intelligent Vehicle Control Rules to Improve Automated Material Handling System Performance in Highly Dynamic Manufacturing Environment”. Committee member. Spring 08 – Summer 08.

D. Courses Prepared and Curriculum Development:

Course development

- ENGR 3315 - TECH 5315 Engineering Economy undergraduate and graduate
 - Designed a two-part project suitable for graduate students.
 - Hosted certified analyst from the Small Business Development Center at Texas State for a talk titled “Business plans preparation”.
 - Prepared multiple examples, not in textbooks, regarding the use of Excel financial formulas, data tables for sensitivity analysis and the equation solver.
- TECH 4345: Methods Engineering and Ergonomics
 - Supervised successful preparation of videotapes about two foundry lab operations for assigning inside and outside class activities.
- TECH 3364 Quality Assurance
 - Contacted Mensor and Thermon Manufacturing quality managers and brought students to the facilities to learn about ISO 9000 and quality control practice.
 - Developed new laboratories to familiarize students with Minitab software and tools such as scales connected to computers, catapults, and sampling bowls.

New course development

- IE 4390 Industrial Engineering Capstone Design

- Collaborated with the faculty teaching the class on Spring 11 by guiding a group of 3 students on doing the capstone design project at a manufacturing facility in Austin.
- IE 3360 Methods Engineering and Ergonomics
 - Solved some practical problems using Xpress optimization modeling language, Design Tools, a software that comes with the textbook, CRAFT, an application for facility layout problems, Minitab, TORA and Excel, to expose students to the advantages of using miscellaneous software to tackle Methods Engineering and Ergonomics problems.
 - Ordered the purchase of additional material for lab practices to agree with current class size.
- IE 4390 Internship
 - “M1A1 Tank Validation” and “Time Study at Arlon ECP” (spring 11).
 - Provided guidance on statistical tools to analyze data collected.
 - “Developing an information system to track cycle time at Thermofisher” (Fall 10)
 - Helped on computer coding issues related to system development.
 - Provided guidance on appropriate quality control and methods engineering tools for reducing cycle time.
- IE 3340 Operations Research, IE 4340 Optimization Techniques, and IE 4350 Supply Chain Engineering.
 - Modeled and solved practical problems with modern optimization software (i.e. Xpress-MP, AMPL, Matlab, Mathcad, What’s Best, Neos Solver, and Excel Solver) to expose students to multiple practice problems not available on a single course textbook.
 - Hosted general manager of the Wal-Mart Distribution Center at New Braunfels for a talk titled “Logistics and supply chain at Wal-Mart facilities”.
 - Contacted performance improvement manager at the Central Texas Medical Center for facilitating students at IE 4340 to elaborate a project at this facility.
 - Designed and supervised undergraduate projects at multiple facilities.
 - Created a brief manual on how to use AMPL and CPLEX optimization software, student and professional versions, at the School labs.
 - Included the School in the Academic Partner Program from FICO Xpress-MP optimization software. Program provides free use of 50 professional floating licenses and 10 allocated licenses given faculty submits an annual report on the use of the software for teaching and research.
- TECH 5384 Problems in Technology. Parallelization of a clustering algorithm using Message Passing Interface (MPI) and shared-memory Open multi-Processing (OpenMP)
 - Opened project account at Ranger, a computer cluster at the Texas Advanced Computing Center (TACC) at University of Texas at Austin.
 - Sent student to learn profiling and debugging tools at a TACC one-day seminar.
 - Familiarized student with the Texas State Computer Science cluster facility Hydrogen.
 - Assigned and supervised readings and project regarding parallelization issues.
 - Supervised implementation of the open source subversion (SVN) repository system. It successfully manages projects where graduate students and faculty work concurrently under Windows or Linux operating systems.

Laboratory development

- Supervised implementation and maintenance of Geblase, the first parallel computing cluster at Texas State. It resides at the School and is apt for merging research on large-scale optimization, statistics and parallel computing. (Spring 06 –present)
- Supervised acquisition and maintenance of more than 15 different software programs for the School labs. (Spring 06 – present)
- Provided input on the construction of a computing lab for Industrial Engineering and coordinated creation of a list of new equipment to purchase. (Spring 06 – Summer 06)

Curriculum development

- Designed syllabus for IE 4399D Modern Heuristic Optimization Techniques, an undergraduate elective class. (Fall 09)
- Designed syllabus for IE 4370 Probabilistic Operations Research, an undergraduate required class. (Spring 08)

- Collaborated on syllabus design for IE 4390 Capstone Design, an undergraduate required class. (Fall 08 and Fall 09)

E. Funded External Teaching Grants and Contracts:

- Funded participant for the “Summer Supercomputing Institute” at the Texas Advanced Computing Center (TACC) in Austin, TX. (August 1 – 5, 2011)
 - Funded participant for Scientific Computing (SC) Summer Workshop “Parallel programming and cluster computing” at the Center for Computation and Technology at Louisiana State University. Prepared and presented project on parallelization of math computations. (July 5 – 11, 2009)
 - Funded participant for Educational Track of SC Conference at Austin, TX. Prepared and submitted report “Educator Plan for Action. (November 14-18, 2008)
 - Funded participant for SC Summer Workshop “Applications of High Performance computing, Grids, Parallel Computing to Science Education” at National Center of Supercomputing Applications (NCSA), Washington, DC. Prepared and presented project on a vehicle routing application using agent based simulation. (July 20-26, 2008)
- All four activities above funded by NSF. Also last three activities above funded by NCSA.

F. Submitted, but not Funded, External Teaching Grants and Contracts:

G. Funded Internal Teaching Grants and Contracts:

H. Submitted, but not Funded, Internal Teaching Grants and Contracts:

I. Other:

- Invited participant for two-day Operations Research (OR) Management Science (MS) Teaching Effectiveness Colloquium (October 9-10, 2009)
- Invited participant for two-day 4th Annual Institute of Industrial Engineers (IIE) New Faculty Colloquium. (May 16-17, 2006)

III. SCHOLARLY/CREATIVE

A. Works in Print

1. Books (if not refereed, please indicate)

- Scholarly Monographs:
- Textbooks:
- Edited Books:
- Chapters in Books:
- Creative Books:

2. Articles

- Refereed Journal Articles: (underlined are Texas State students)

Published or accepted:

1. Novoa, C., Jin, T., 2011. Reliability Centered Planning for Distributed Generation Considering Wind Power Volatility, *Electric Power System Research*. **81**(8), 1654-1661.
2. Rashid, H., Novoa, C., McKenney, M., Qasem, A., 2011. Efficient Parallel Solutions to the Integral Knapsack Problem on Current Chip-multiprocessor Systems. *International Journal of Parallel, Emergent and Distributed Systems*, In-Press, Manuscript ID: 577432, 1-24.

3. Asiabanpour, B., Vejandla, D. T., Jimenez, J., Novoa, C., 2009. Optimizing the Automated Plasma Cutting Process by Design of Experiments. *International Journal of Rapid Manufacturing* 1(1), 19-40.
4. Novoa, C., Storer, R., 2009. An Approximate Dynamic Programming Approach for the Vehicle Routing Problem with Stochastic Demands. *European Journal of Operational Research* 196(2), 509-515.
5. Novoa, C., Artiles-Leon, N., 2009. On the Distribution of the Usual Estimator of Cpk and Some Applications in Statistical Process Control (SPC). *Quality Engineering* 21(1), 24-33.
6. Novoa, C., Mendez, F., 2009. Bootstrap Methods for Analyzing Time Studies and Input Data for Simulations. *International Journal of Productivity and Performance Management (IJPPM)* 58(5), 460-479.

Submitted and/or under review:

1. Novoa, C., Berger, R., Linderoth, J., Storer, R. A New Recourse Approach for solving the Stochastic Vehicle Routing Problem under a Set-Partitioning Model, 1-33. Submitted to *Transportation Science* on December 2006, re-submitted on June 2009. Working on 2nd corrections.

In-progress:

1. Tamir, D., Novoa, C., Lowell, D. A Genetic Algorithm with Software Cache Implementation for Solving the Feature Selection Problem. Target journal: *Inform Journal on Computing*.
 2. Novoa, C. Operations Research, Material Handling and Logistics to solve a Warehouse Consolidation Problem at Goodwill Industries. Target journal: *Interfaces*.
3. Conference Proceedings
- a. Refereed Conference Proceedings: (underlined are Texas State students)
1. Jin, T., Tian, Z., Novoa, C., 2011. Managing Performance Based Logistics by Balancing Reliability and Spare Parts Stocking. *Proceedings of the 2011 International Conference on Quality, Reliability, Risk, Maintenance and Safety Engineering (ICQR2MSE)*. 1-6. Paper 0217.
 2. Novoa, C., Tamir, D., Lowell, D., 2010. Tuning up the ISODATA Algorithm using Response Surface Methodology. *Proceedings of the 2010 International Conference on Artificial Intelligence and Pattern Recognition (AIPR)*, 262-269.
Work also presented in poster for First Women in Science and Engineering (WISE) conference. Texas State University. April 30, 2010.
 3. Rashid, H., Novoa, C., Qasem, A., 2010. An Evaluation of Parallel Knapsack Algorithms on Multicore Architectures. *Proceedings of the 2010 International Conference on Scientific Computing (CSC'10)*, 230-235. Acceptance rate 26%.
Work also presented in poster for WISE conference. Texas State University. April 30, 2010.
 4. Tamir, D., Novoa, C., Lowell, D., 2010. Time Space Tradeoffs in Genetic Algorithm (GA) Based Feature Selection for Workload Characterization. *Twenty Third international Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA-AIE 2010)*, 643-652.

5. Asiabanpour, B., Vejandla, D.T., Novoa, C., Jimenez, J., Fisher, R., 2009. Optimizing the Quality of Parts Manufactured by the Automated Plasma Cutting Process using Response Surface Methodology. *Proceedings of the 2009 International Solid Freeform Fabrication (SFF) Symposium*, 47-60.
 6. Lowell, D., Lababidi, B., Novoa, C., Tamir D., 2009. The Locality of Reference of Genetic Algorithms and Probabilistic Reasoning. *Proceedings of the 2009 International Conference on Artificial Intelligence and Pattern Recognition (AIPR)*, 221-228.
 7. Dozier, S., Novoa, C., Preece, J., Bubela, C., 2008. An Optimization Study of the Laundry Services at the Central Texas Medical Center, *Proceedings of the Industrial Engineering Research Conference (IERC)*, 475-480.
 8. Novoa C., Storer R., 2006. The Vehicle Routing Problem with Stochastic Demands Combining Static and Dynamic Approaches. *Proceedings of the Industrial Engineering Research Conference (IERC)*, Paper 1525, 1-6.
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9. Novoa, C., Buechter, H., 2003. Sequencing Traversing Cars in a Warehouse using Ant-Colony Systems. *Proceedings of The Industrial Engineering Research Conference (IERC)*, Paper 2025, 1-6.
 10. Artiles, N., Novoa, C., Domenech, C., 1995. Improving Fabric Finishing through Experimental Design. *Transactions, 49th Annual Quality Congress*, Boston, MA, 952-961.
 11. Toro-Ramos, Z., Bartolomei, S., Novoa, C, 1991. A Decomposition Approach for the Design of Manufacturing Systems with Centralized Work-In-Process Storage and Limited Buffers. *Proceedings of the 1991 NSF Design and Manufacturing Systems*, Austin, TX, 745-753.

In-progress:

1. Alkusari, S., Novoa, C., Asiabanpour, B. Using Multiple Imputation to Eliminate Bias Results. Target: *Proceedings of the Industrial Engineering Research Conference (IERC) 2012*, 1-8. Submissions will open on November 11, 2011.

4. Abstracts:

Hickman, M., 2007. TSL Dissertation Abstracts 2006 Transportation Science and Logistics Society Dissertation Prize Competition. *Transportation Science* 41(3), 415-429. Article posted dissertation abstracts for the 26 award nominees including Novoa, C., “Static and Dynamic Approaches for Solving the Vehicle Routing Problem with Stochastic Demands”.

5. Reports:

Novoa, C., Berger, R., Linderoth, J., Storer, R., 2006. A Set-Partitioning Based Model for the Stochastic Vehicle Routing Problem, Technical report 06T-008, *Lehigh University*, 1-30. Available at http://www.lehigh.edu/ise/documents/06t_008.pdf and at Optimization Online, a repository supported by the Mathematical Programming Society, http://www.optimization-online.org/DB_HTML/2006/12/1542.html

6. Book Reviews:

7. Other:

B. Works not in Print

1. Papers Presented at Professional Meetings:

(listing here only those that are not a repetition of the conference proceedings list)

Posters:

1. Gardner, J., Greene, J. Granado, J.A., Novoa, C. "Facility Layout at ABC Company". Second Women in Science and Engineering (WISE) conference. Texas State University. April 8, 2011.
2. Innes, A., Novoa, C. "A Simulation Model for Comparing Truck Routes on a Stochastic Setting". Second Women in Science and Engineering (WISE) conference. Texas State University. April 8, 2011.
3. Alkusari, S., Novoa, C., Asiabanpour, B. "Using Multiple Imputation to Eliminate Bias Results". Second Women in Science and Engineering (WISE) conference. Texas State University. April 8, 2011.
4. Bhaskarwar, R., Novoa, C. "Particle Swarm for Feature Selection". First Women in Science and Engineering (WISE) conference. Texas State University. April 30, 2010.

Talks:

1. Novoa, C. "A Stochastic Programming Model for the Feature Selection Problem". The Institute for the Operations Research and Management Science (INFORMS) Annual Conference, Washington, DC, October 12-15, 2008.
2. Novoa, C. "A Real-Time Model for the Stochastic Vehicle Routing Problem". The INFORMS Annual Conference, Seattle, WA, November 4-7, 2007.
3. Novoa, C. "The Multiple Vehicle Routing Problem with Stochastic Demands under a Dynamic Approach". The INFORMS Annual Conference, Pittsburgh, PA., November 5-8, 2006.
4. Novoa, C. "A Web-based environment for Teaching Queuing Theory". The INFORMS Annual Conference, Miami, FL, November 4-7, 2001.

2. Invited Talks, Lectures, and Presentations:

1. Dozier, S., Novoa, C. "A Study of the Laundry Services at Central Texas Medical Center". Central Texas Medical Center". (January 2008). Also a poster of this work was presented at Scholars Day, Texas State University. (February 2008).
2. Novoa, C. "Vehicle Routing Problems". Texas State University, Department of Mathematics' Seminars. (November 2006).
3. Novoa, C. "The Vehicle Routing Problem with Stochastic Demands under a Dynamic Approach". Texas State University, Engineering and Technology Seminars. (March 2006).
4. Novoa, C. "Static and Dynamic Approaches for Solving Vehicle Routing Problems with Stochastic Demands". The University of Texas at Austin, Department of Mechanical Engineering, OR/IE Seminar. (October 2005).

3. Consultancies:

Goodwill Industries of Central Texas. “Industrial Engineering (IE) at Goodwill Industries – Phase I: Warehouses Consolidation”. \$15,000. (May 2009 – August 2009).

4. Workshops:

5. Other:

C. Grants and Contracts

1. Funded External Grants and Contracts:

Senior investigator NSF-REU grant “ Micro/Nano Assembly Workcell via Micro Visual Sensing and Haptic Feedback”. Dr. Dugan Um (PI) and Dr. Bahram Asiabanpour (Co-PI). \$222,744. (2008-2009).

1.1. Under Review External Grants and Contracts:

1. Garcia, D., Hazell, T., Novoa, C. “An Engineering and Entrepreneurship Track for the WISE Conference at Texas State University”. Co-PI. Submitted to NSF Directorate of Engineering, Division of Engineering Education and Centers (EEC). First submission: \$56,250 (March, 2011) Withdrawn on July, 2011 Second submission: \$36,955 (October, 2011)
2. Novoa, C., Romanella, S., Ngu, A., Graham, R. “SPARK – Increasing the Recruitment and Retention of Female Undergraduates in Engineering and Computer Science”. PI. Submitted to the NSF Directorate of Education and Human Resources, Division of Undergraduate Education, Scholarships in Science, Technology, Engineering and Mathematics (S-STEM). \$599,982 (August, 2011)

2. Submitted, but not Funded, External Grants and Contracts:

1. Jin, T., Novoa, C. “Demand Responses, from Wind Turbine Maintenance to Virtual Energy Provisioning”. Co-PI. Submitted to NSF Manufacturing Enterprise Systems (MES) Division. \$299,719. (October 2010)
2. Jin, T., Novoa, C. “Robust and Lifecycle Approach to System Reliability Growth in the Presence of Stochastic Latent Failures”. Co-PI. Submitted to NSF MES Division. \$298,771. (February 2010)
3. Jin, T., Novoa, C. “Reliability Growth Planning for Electronic Systems Considering Latent Failures”. Co-PI. Submitted to NSF MES Division. \$298,771. (September 2009)
4. Novoa, C., Qasem, A., Yi, Q.”Redesigning Mathematical Optimization Algorithms for Multi-core Systems”. PI. Pre-proposal submitted to Norman Hackerman Advanced Research Program (NHARP). \$142,700. (September 2009)

3. Funded Internal Grants and Contracts:

1. Qasem, A., Novoa, C. “Investigating the Challenges of Mapping Operations Research Algorithms on Multi-core Systems”. Office of Sponsored Programs (OSP) - Research Enhanced Program (REP). \$10,000. (May 2009 – May 2010)
2. Novoa, C. “The real-time vehicle routing problem with stochastic demands”. REP. \$6,940. (June 2006 – May 2007)

3. Novoa, C. "Acquisition of Optimization Software for Multiple Academic Backgrounds". Texas State University - Library Research Grant. \$1,888.90. (February 2006 – May 2006)

4. Submitted, but not Funded, Internal Grants and Contracts:

1. Novoa, C. Office of Sponsored Programs – One-time Research Support from the Associate Vice-President for Research. Requested funds to continue on-going research on efficient solutions to optimization problems. \$30,300. (October 2009).
2. Novoa, C. "A Dynamic Solution for the Stochastic Vehicle Routing Problem (SVRP) based on a Parallel Programming Solution to a Set-Partitioning Model". REP. \$8,000. (October 2007).
3. Novoa, C. "Parallel Computing for Solving the Multiple Vehicle Routing Problem with Stochastic Demands". REP. \$8,000. (October 2006)

D. Fellowships, Awards, Honors:

- Nominated by dissertation advisor to the 2006 Transportation Science and Logistics Society Dissertation Prize Competition. Society belongs to the Institute for the Operations Research and Management Science (INFORMS). Competition is the oldest and most prestigious for doctoral dissertations in the field. Thesis resulted one of the 26 finalists; abstract available on *Transportation Science*, 41(3), 415-429. (August 2007).
- Nominated as Graduate Student of the Year. Lehigh University, Industrial and Systems Engineering (ISE) Department, Bethlehem, PA. (May 2004)
- Recipient of the Institute of Industrial Engineers (IIE) Gilbreth Memorial Fellowship. \$1000. (August 2002 – August 2003)
- Recipient of the Graduate Student of the Year award. Lehigh University, ISE Department, Bethlehem, PA. (May 2002)
- Recipient of the NSF Integrative Graduate Education and Research Training (IGERT) fellowship to pursue a doctoral study in Global Manufacturing Logistics at the ISE department at Lehigh University. Award included tuition, books, stipend, international internship at a research facility, and support for traveling to research conferences, seminars and networking activities. (August 2000 – August 2003)
- Recipient of cash amount and recognition activity for the successful implementation of an incentive plan and cost reduction project at Hanes Menswear, Inc., Ponce, Puerto Rico. (July 1992)

IV. SERVICE

A. University:

- Bobcat Days. Annually. (August 2005 – present)
- Commencement. Annually. (May 2006 – Present). Served as Marshal one occasion (August 2007)
- Second and Third Women in Science and Engineering (WISE) conference at Texas State University. Member of the organizing committee (November 2010 – Present)
- First WISE conference at Texas State University. Oriented participants about School. Coordinated participant tours to the School labs with the help of undergraduate students and lab technician. (April 2010)

- STEM Committee. Committee member. Participated on weekly two-hour meetings to produce an action plan for improving Texas State STEM disciplines that was presented to the Provost. (August 2006 – April 2007)

B. Departmental:

- Austin Science Fair. Helped on the booth to advertise engineering to elementary school students (October 2010)
- Project Lead the Way (PLW). Hosted an activity to motivate high school students to study Industrial Engineering (November 2008)
- Society of Women Engineers (SWE). Faculty advisor and counselor of the SWE Texas State Chapter (August 2005 – Present)
 - Sample of activities include: (1) increased the number of SWE members from 2 to 20 (total female in the School is 50), (2) facilitated students attendance to the annual SWE Region C and National Conferences, (3) prepared written documentation about the society and provided it to the Advising Center at the College of Science and the director of the Houston-Louis Stokes Alliance for Minority Participation (H-SLAMP) program, (4) obtained the Highest Membership Growth and the Highest Membership Retention awards at the SWE Region C Conference in San Antonio, TX, February 2008.
- School Personnel Committee. Member (Fall 11 – Present)
- Faculty Search Committees
 - Chair of the committee to recruit Assistant Professor for Industrial Engineering (Fall 11- Spring 12)
 - Member of committees to recruit Assistant Professor for Electrical Engineering, Adjunct professor for Industrial Engineering and Assistant Professor for Industrial Engineering (2009)
 - Member of committees to recruit Associate Professor for Electrical Engineering, Adjunct professor for Industrial Engineering and Associate Professor for Industrial Engineering. (2008)
 - Member of committee to recruit Director of the Ingram School of Engineering. (2007)
- Scholarships and Awards Committee
 - Member of committee to encourage applications for multiple scholarships and awards, design new School scholarships and screen candidates (2008 – 2010)
- Students Advising
 - Advice undergraduate students in Industrial Engineering about curriculum and career issues. Answer questions from parents and students interested in the School. (January 2007 – Present)
 - Mentor two female at the H-SLAMP program (2010 - 2011)
- ABET Accreditation
 - Collaborated with the elaboration of the Self-Study Report (SSR) submitted to ABET on July 1, 2011. (March 2011 – June 2011)
 - Attended meetings, prepared assessment reports, and filed documentation. (August 2005 – Present)

C. Community:

- University of Texas at Austin. “Introduce a Girl to Engineering Day”. Hosted annual hands-on activities with help of members of the Texas State University SWE Chapter. Themes were “Kaleido-Mania”, “Gumdrop Dome”, “Puff Mobile”, “Rescue Mission 2.0”, and “Fun with IE”. The activity currently introduces engineering to more than 1600 girls from 1st to 8th grade. (2007- Present)
- Promoting Underrepresented Presence on Science and Engineering Faculties (PURPOSE) Institute.
 - Participated on NSF funded summit led by a female engineering professor at North Carolina State University. Goal was to gather suggestions on best practices for recruitment, retention and promotion of women of color in engineering academia and generate a document (June 2007).

- Participated on two-day outreach activity for girls of color 8th-10th grades where faculty shared with girls about engineering through multiple innovative activities. (June 2007)
- University of Puerto Rico – Mayaguez (UPRM). Provided support letters for an NSF-REU grant to recruit U.S. students for doing internships at UPRM campus. Project funded and one Texas State student became selected as an intern for Summer 2010.

D. Professional:

Journal Referee

- Transportation Science. Refereed 1 paper (February 2011)
 - Transportation Research Part E. Refereed 1 paper (February 2011)
 - Annals of operations research. Refereed 1 paper. (November 2010)
 - Operations Research. Refereed 1 paper. (First submission: August 2010, Second submission: October 2011)
 - Journal of Zhejiang University – Science A (ZUSA). Refereed 1 paper (May 2009).
 - Asia Pacific Journal of Operations Research (OR). Refereed 1 paper (First Submission: July 2008 and Second Submission: November 2008)
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- European Journal of Operational Research. Enlisted as referee.
 - The Engineering Economist. Reviewed 2 papers. (October 2001)

Proceedings Referee

- Proceedings of the International Solid Freeform Fabrication (SFF) Symposium. Refereed 2 papers. (August 2009)
 - Proceedings of the Industrial Engineering Research Conference (IERC). Refereed 1 paper (April 2006).
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- Proceedings of the Industrial Engineering Research Conference (IERC). Refereed 2 papers (April 2003)

Textbook Reviewer

- Reviewed chapters “Advanced Topics in Quality (design of experiments and quality function deployment)” and “Quality Costs” from the book, Quality, Donna C. S. Summers, 4th edition, Prentice Hall. (December 2006)
- Suggested elimination of Mil-Std1567A Appendix from Methods, Standards and Work Design, Benjamin Niebel and Andris Freivalds, McGraw-Hill. The standard, cancelled in 1987, was left in subsequent editions and then removed from the 12th edition. (June 2007)

E. Organizations

1. Honorary:

2. Professional:

- Institute for Operations Research and the Management Sciences (INFORMS) (2001 – present)
 - Member of the INFORMS Transportation Science and Logistics Society (2001 – present)
 - Member of the INFORMS Simulation Society (2006-2009)
 - Member of the INFORMS Computing Society (2009- present)
- The Mathematical Programming Society (MPS). (2006 – present)
- The Institute of Industrial Engineers (IIE). (2001 – present)
- The Society of Women Engineers (SWE). (2005 – present)

F. Services Honors and Awards: