Exciting things keep on happening at Texas A&M University and in our department. The department's name has been changed to the Industrial and Systems Engineering Department to reflect the breadth of research our faculty are conducting and the range of employers who are hiring our students. The breadth of research our faculty are conducting and the changes in the field, as evidenced by the breadth of research and the new faculty, have helped us maintain a top-ten ranking. This report provides an overview of the department, which consistently enjoys a top-ten ranking.

Brett A. Peters
Department Head

Texas A&M University's five-year faculty reinvestment program continues. We hired three new faculty members in 2005 and have other additions planned for 2006. As a result, we continue to strengthen our faculty and improve the department's activities for 2005 and highlight a few of our many accomplishments. We are excited about the future as we continue to build a culture of excellence and improve the educational opportunities that are available to our students.

Texas A&M University
ABOUT THE FACULTY

The faculty of the Texas A&M Department of Industrial and Systems Engineering share a common interest in research and education. The departmental research program is focused on manufacturing and production systems modeling and analysis of probabilistic systems; modeling and analysis of manufacturing control; knowledge-based systems; automated and integrated modeling; concurrent engineering; manufacturing control systems; supply chain management; economics manufacturing; human-computer interaction; and human factors in transportation systems. The faculty is nationally recognized for contributions in a variety of areas of research and for service to the industrial engineering profession.

For more information, visit our web site
http://ie.tamu.edu

IndustriAl and systems engineering faculty • Texas A&M university

Amar Nath banerjee
Associate Professor and Director of Undergraduate Program
Ph.D., University of Illinois at Chicago
banerjee@tamu.edu

Dr. Banerjee’s research interests are in virtual manufacturing, simulation, augmented reality and human behavior modeling. He directs the Advanced Virtual Manufacturing and Augmented Reality Laboratory. He teaches courses in manufacturing and production systems design and control, facilities planning, virtual manufacturing and simulation.

j. eric bickel
Assistant Professor
Ph.D., Stanford University
bickel@iemail.tamu.edu

Dr. Bickel’s research interests include decision analysis, modeling probabilistic dependence, value of information, and applications of decision analysis to enhanced oil recovery. Dr. Bickel teaches engineering economy, decision analysis, and senior design. Prior to joining Texas A&M University, Dr. Bickel was a Senior Engagement Manager for Strategic Decisions Group (SDG) in Houston, where he applied decision analysis to corporate strategy for Fortune 500 companies.

Sergiy Butenko
Assistant Professor
Ph.D., University of Florida
butenko@tamu.edu

Dr. Butenko’s research interests are in the areas of optimization, operations research and mathematical programming. In particular, he is interested in combinatorial and global optimization problems and their applications. Recently, he has been working on development of efficient heuristics and exact algorithms for computationally difficult optimization problems on graphs. The considered application areas include coding theory, wireless networks, finance, and computational biology.

Guy L. curry
Professor and Director of Graduate Program
Ph.D., University of Arkansas
g-curry@tamu.edu

Dr. Curry specializes in the application of operations research techniques to the design and analysis of manufacturing systems. He teaches courses in optimization and production systems.

Bryan L. Deuermeyer
Professor
Ph.D., Northwestern University
b-deuermeyer@tamu.edu

Dr. Deuermeyer’s research interests lie in the integration of operations research and computer science with specific emphasis on developing new discrete simulation languages and run-time engines. Currently he is developing quick-response simulation systems to support the design and analysis of semiconductor manufacturing systems. He teaches courses in mathematical programming, discrete simulation and general operations research.
Gary M. Gaukler  
Assistant Professor  
Ph.D., Stanford University  
gaukler@tamu.edu  

Dr. Gaukler’s research interests are in applications of RFID in supply chain management, supply chain visibility and inventory control policies, homeland security and supply chain vulnerabilities, and information sharing across the supply chain. Dr. Gaukler directs the RFID and Supply Chain Systems Lab. He teaches courses in operations management and logistics.

Natarajan Gautam  
Associate Professor  
Ph.D., University of North Carolina at Chapel Hill  
gautam@tamu.edu  

Dr. Gautam’s areas of interest include optimal design, control and performance evaluation of stochastic systems, with special emphasis on service engineering, using techniques in queueing theory, applied probability and optimization. His specific research topics include telecommunication network design and traffic engineering for providing quality of service, computer-communication network control including web servers and mobile ad-hoc networks, transportation systems modeling for traffic operations and performance analysis, and information technology including survivability of multi-agent systems and peer-to-peer networks.

Rodger J. Koppa  
Associate Professor Emeritus  
Ph.D., Texas A&M University  
rkoppa@tamu.edu  

Dr. Koppa’s research centered on transportation, human factors and ergonomics. He was formerly involved in the design and evaluation of automotive adaptive devices for disabled drivers and in design of traffic information systems. He teaches courses in human factors and ergonomics and serves on student advisory committees. He is also a faculty advisor for capstone design teams. Dr. Koppa is a Fellow of the Human Factors and Ergonomics Society.

Illya V. Hicks  
Associate Professor  
Ph.D., Rice University  
vhicks@tamu.edu  

Dr. Hicks’ research interests are in combinatorial optimization, graph theory and integer programming. Some applications of interest are network design, manufacturing and logistics. His current research is focused on using graph decompositions to solve NP-complete problems. He teaches courses in discrete optimization.

Georgia-Ann Klutke  
Professor  
Ph.D., Virginia Polytechnic Institute and State University  
klutke@tamu.edu  

Dr. Klutke’s research interests are in the areas of applied probability and stochastic processes, with particular emphasis on problems that arise in production and service systems. Her work has examined queuing behavior, inspection and maintenance scheduling, product flow control, degradation processes, information structure in decision models and layout of retail facilities. She teaches courses in operations research, queueing theory, stochastic processes, engineering systems design, production operations, reliability and maintenance science.

V. Jorge Leon  
Allen-Bradley Professor in Factory Automation Joint Appointment with Engineering Technology  
Ph.D., Lehigh University  
leon@entc.tamu.edu  

Dr. Leon’s research interests are in manufacturing system optimization, finite-capacity resource planning and scheduling, applications of combinatorial optimization and heuristic search. Recent work involves the study of collaborative distributed production systems and global manufacturing.

Gary M. Gaukler  
Assistant Professor  
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gaukler@tamu.edu  

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rkoppa@tamu.edu  

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klutke@tamu.edu  

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Allen-Bradley Professor in Factory Automation Joint Appointment with Engineering Technology  
Ph.D., Lehigh University  
leon@entc.tamu.edu  

Dr. Leon’s research interests are in manufacturing system optimization, finite-capacity resource planning and scheduling, applications of combinatorial optimization and heuristic search. Recent work involves the study of collaborative distributed production systems and global manufacturing.
Robert E. Shannon
Professor Emeritus
rshannon@tamu.edu

Dr. Shannon’s research is in operations research and engineering management. He applies simulation to problems in logistics, distribution and manufacturing systems design, and in combining simulation and expert systems methodologies. His recent research involves using simulation to generate data for training neural nets for sensory and data fusion. He teaches courses in operations research, simulation and engineering management. Dr. Shannon is an IIE Fellow.

Eylem Tekin
Assistant Professor
Ph.D., Northwestern University
eylem@tamu.edu

Dr. Tekin’s research interests are in optimal design and control of stochastic systems, revenue management and supply chain management. Her current research focuses on the design and analysis of systems with flexible production/service capacity and cross-trained servers to create agile operations. The application areas of her research include manufacturing systems, call centers, health care services, airlines, and hospitality industry. She teaches courses on production systems operation, stochastic models of manufacturing systems and stochastic dynamic programming.

Dr. Wilhelm specializes in integer programming, scheduling, and the design and operation of assembly systems. Currently, he is conducting two research projects. One project involves devising new integer programming algorithms to prescribe the types of sensors, the number of each type and the location of each sensor in a surveillance system to assure robust homeland security in U.S. ports and waterways. The second project deals with the design of international assembly systems and their supply chains under NAFTA. He teaches courses in integer programming, scheduling, linear programming and operations research. Dr. Wilhelm is an IIE Fellow and a recipient of the IIE David E. Baker Distinguished Research Award.

Martin A. Wortman
Professor
Ph.D., Virginia Polytechnic Institute and State University
wortman@tamu.edu

Dr. Wortman’s research and teaching interests are in applied probability and stochastic processes. Currently, he is investigating sequential decision processes having partially ordered outcomes and risk analysis under partial event orderings. He teaches courses in stochastic processes and queueing theory.
Amarnath Banerjee

Banerjee, A. and Y. Ding, Undergraduate Equipment Initiative, Dwight Look College of Engineering, 2005, $80,000.


Sergiy Butenko

Butenko, S., Pathways to the Doctorate Research Assistantship Award, 2005-2006, Office of the Vice President for Research, Texas A&M University, $25,000.


Yu Ding


Illya Hicks
Hicks, I. V., “SGER: Branch Decomposition Techniques for Independence Systems,” 2005-2006, National Science Foundation, $80,000.

Hicks, I. V., “Travel Support for Minority Students to attend INFORMS Annual Meeting,” 2005-2005, National Science Foundation, $4,750.

Brett A. Peters

Harry Üster

James A. Wall
Amarnath Banerjee

Guy Curry

Sergiy Butenko

Yu Ding
PUBLICATIONS

AMARNATH BANERJEE


Wilbert E. Wilhelm


Martin A. Wortman


Gary Gaukler


Lewis Ntaimo


Brett A. Peters

Amarnath Banerjee


J. Eric Bickel


Sergiy Butenko


Sila Çetinkaya


Yu Ding


Ding, Y., “Optimal Engineer-


Gary Gaukler


Natarajan Gautam


Ilyia Hicks


Georgia-Ann Klutke


Jorge Leon


Lewis Ntaimo

PROFESSIONAL ACTIVITIES AND NOTABLE POSITIONS

**Martin A. Wortman**


Proposal Reviewer, National Science Foundation.

Proposal Reviewer, Fonds de recherche sur la nature et les technologies, Quebec, Canada.

**G. Kemble Bennett**
Member, Task Force on Eco and Animal Rights Terrorism, National Association of State Universities and Land Grant Colleges (NASULGC).


Executive Director, National Emergency Response and Rescue Training Center.

**Amarnath Banerjee**
Member, Program Committee, IEEE 2003 International Conference on Systems, Man and Cybernetics.


Associate Editor, International Journal of Services Operations and Informatics.

Reviewer, IEEE Transactions on Automation and Sciences in Engineering.

Reviewer, IEEE Transactions on Systems, Man and Cybernetics, Part A.


Proposal Reviewer, National Science Foundation.

Proposal Reviewer, Fonds de recherche sur la nature et les technologies, Quebec, Canada.

**J. Eric Bickel**
Cluster Co-Chair, Decision Analysis Track, INFORMS Annual Meeting.

Council Member, Decision Analysis Society.

Member, Publication Award Committee, Decision Analysis Society.

Session Chair, spORts Arcade, INFORMS Annual Meeting.

Session Chair, Decision Analysis Arcade I, INFORMS Annual Meeting.

Session Chair, Decision Analysis Arcade II, INFORMS Annual Meeting.

Session Chair, Decision Analysis Arcade III, INFORMS Annual Meeting.

Executive Director, System Assessment and Validation for Emergency Responders Program.

Trustee, Southwest Research Institute.

Member, Advanced Energy Technical Working Group, Texas Technology Initiative.

Member, Emergency Preparedness Institute Working Group, City of San Antonio, Texas.

Member, Texas Deans of Engineering.

Member, Professional Engineering Exam Committee, Texas Board of Professional Engineers.

Member, Executive Committee, Texas Engineering and Technical Consortium.

**Sergiy Butenko**
Panelist, National Science Foundation.

Invited Session Organizer, INFORMS Annual Meeting.

Member, Editorial Board, Journal of Global Optimization.

Member, Editorial Board, Computational Management Science.

Member, Editorial Board, International Journal of Computational Science and Engineering.

Reviewer, Mathematical Reviews.

Referee, Computational Optimization and Applications.

Referee, European Journal of Operational Research.


Referee, Computational Economics Journal.

Referee, Journal of Communications and Networks.

**Nyima I., A. Üster and S. Çetinkaya**


**Eylem Tekin**


**Wilbert E. Wilhelm**

**Halit Üster**


**Sergiy Butenko**
Panelist, National Science Foundation.

Invited Session Organizer, INFORMS Annual Meeting.

Member, Editorial Board, Journal of Global Optimization.

Member, Editorial Board, Computational Management Science.

Member, Editorial Board, International Journal of Computational Science and Engineering.

Reviewer, Mathematical Reviews.

Referee, Computational Optimization and Applications.

Referee, European Journal of Operational Research.


Referee, Computational Economics Journal.

Referee, Journal of Communications and Networks.
Referee, The American Statistician.
Referee, IEEE Transactions.
Referee, IEEE Transactions on Parallel and Distributed Systems.
Referee, Optimization Methods and Software.
Referee, Computer Networks.
Referee, The American Statistician.
Referee, IEEE Transactions on Parallel and Distributed Systems.
Referee, Optimization Methods and Software.
Member, Organization Committee, INFORMS Annual Meeting.
Panelist, Proposal Review Panel, National Science Foundation.
Referee, National Science Foundation.
Referee, Automatica.
Referee, IEEE Transactions.
Referee, Management Science.
Referee, Naval Research Logistics.
Referee, Omega.
Guy Curry
Bryan Deuermeyer
Reviewer, IEEE Transactions.
Reviewer, Management Science.
Reviewer, Operations Research.
Yu Ding
Co-Chair, Quality Track, 14th Annual Institute of Industrial Engineers Research Conference.
Coordinator, Best Student Paper Competition, Quality, Statistics, Reliability Section, INFORMS Annual Meeting.
Organizer, “Distributed Sensing,” INFORMS Annual Meeting.
Gary Gaukler
Representative, Chapters and Fora Committee, INFORMS.
Referee, Production and Operations Management.
Natarajan Gautam
Member, Technical Program Committee, International Conference on Sensor Networks.
Council Member, INFORMS Section on Quality, Statistics, and Reliability.
Department Editor, IEEE Transactions on Quality and Reliability.
Guest Co-Editor, Special Issue on Distributed Sensing for Quality and Productivity Improvement, IEEE Transactions on Automation Science and Engineering.
Reviewer, Technometrics.
Reviewer, IEEE Transactions on Automation Science and Engineering.
Reviewer, ASME Transactions.
Proposal review panelist, Civil and Mechanical Systems, National Science Foundation.
Ad Hoc proposal reviewer, Civil and Mechanical Systems, National Science Foundation.
Session Chair, Computer Networks, IASTED International Conference on Parallel and Distributed Computing and Networks.
Faculty Mentor, 14th Annual Institute of Industrial Engineers Research Conference.
Tenured Faculty Mentor, MentorNet, The E-Mentoring Network for Diversity in Engineering and Science.
Director, Northeastern North America Region of Omega Rho (Operations Research International Honors Society).
Associate Editor, INFORMS Journal on Computing.
Reviewer, Computers and Industrial Engineering.
Reviewer, IEEE/ACM Transactions on Computers.
Reviewer, IEEE Transactions on Parallel and Distributed Systems.
Reviewer, IEEE Transactions on Reliability.
Reviewer, IEEE Transactions.
Reviewer, INFORMS Journal on Computing.
Reviewer,Naval Research Logistics.
Reviewer, Performance Evaluation.
Reviewer, Telecommunication Systems.
Reviewer, INFORMS Junior Faculty Interest Group.
Illya Hicks
Member, Diversity Committee, SIAM.
President, Minority Issues Forum, INFORMS.
Chair, Annual Meeting Planning Committee, Special Events and Spouses, INFORMS.
Panelist, IGERT, National Science Foundation.
Referee, ACM-SIAM Symposium on Discrete Algorithms.
Referee, European Journal of Operational Research.
Referee, International Colloquium on Automata, Languages and Programming.
Referee, Networks.
Referee, SIAM Journal on Discrete Mathematics.
Georgia-Ann Klutke
Program Chair, 14th Annual Institute of Industrial Engineers Research Conference.
Session Organizer, Maintenance Models, 14th Annual Institute of Industrial Engineers Research Conference.
Associate Editor, IEEE Transactions on Reliability.
Department Editor, Engineering Statistics and Probability, IEEE Transactions on Operations Engineering.
Gary M. Gaukler, Assistant Professor, Ph.D., Stanford
Natarajan Gautam, Associate Professor, Ph.D., University of North Carolina at Chapel Hill
Eylem Tekin, Assistant Professor, Ph.D., Northwestern University

Graduate Degrees Advised:

Halit Üster, Camacho Ramos, Abraham, M. Eng.
Chandrasekaran, Deepak
Garcia, Fabiano Varella, M. Eng.
Karnabat, Onur, M. Eng.
Ramanujam, Vinodh, M. Eng.
Sasi Kumar, Sarath Kumar, M. S., "A Multi-Exchange Heuristic for Formation of Balanced Disjoint Rings."

Wilbert E. Wilhelm

Faersan, Jyotpal Singh, M. S.

Martin A. Wortman

Savachkin, Aliaksei, Ph.D., "Capacity Dynamics of Feedforward, Flow-Matching Networks Exposed to Random Failures."

Human Factors and Ergonomics Society

Newton C. Ellis, Emeritus
Rodger J. Koppa, Emeritus
Institute of Industrial Engineers

G. Kemble Bennett

University of North Carolina at Chapel Hill
Ph.D., University of North Carolina
Assistant Professor, Human Factors and Ergonomics
Cary, M. Cauley

Graduate Degree Advised

MORE ABOUT FACULTY

New Faculty

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