

## Message from the chair

I hope you like our new newsletter format — part of an effort by the Samuel Ginn College of Engineering to unify publications and communications throughout the departments. If you have recently visited our Web site at [www.eng.auburn.edu](http://www.eng.auburn.edu), you will also note major changes there.

We are pleased to announce the growth of our ISE family with two new faculty members, a new academic advisor and a new ISE Alumni Council member. Together we continuously work to be the best department we can be, and to provide service to our current 200 plus students.

I want to congratulate Rob Thomas and Jeff Smith on their promotions to full professor, effective this term. I also want to recognize Jerry Davis for achieving his Certified Safety Professional (CSP) designation and for being elected as the incoming president of the Society for Work Science. Finally, I would like to thank Coby Frampton (class of 1970), a four-year member of our ISE Alumni Council and incoming chair, for taking on the leadership position; and Tim Cook (class of 1982), outgoing council founding chair, for his tireless work in establishing this group.

*Alice E. Smith*

## Faculty receive grant for biomechanical project

Brian Carnahan, assistant professor of industrial and systems engineering and Lewis Payton, research professor of industrial and systems engineering, are the recipients of a two-year \$100,000 grant, "Evolutionary Design of Finite Element Meshes for Injury Biomechanics Research," administered by the Southern Consortium of Injury Biomechanics Research.

The objective of the proposed research is to provide an affordable, accurate, responsive and timely mathematical tool — finite element analysis — for biomechanics research. This tool has been used successfully for a number of years in place of costly human cadaver impact and loading studies. However, the process is still expensive, requiring an expert operator and a large amount of computational time. This study will seek to address these issues by simplifying the input grid generation schemes through the use of evolutionary computation (EC) techniques for finite element mesh design.



Alice Smith



Brian Carnahan



Lewis Payton

## Cummins joins ISE council

Auburn University graduate Tim Cummins has combined a technical background in industrial and systems engineering with a law degree to build a successful career with Bradley Arant Rose & White LLP. As a member of the General Litigation Practice Group in the firm's Huntsville office, Cummins represents a wide variety of clients in commercial, employment, First Amendment and intellectual property disputes in both Federal and Alabama State Courts.

While an undergraduate at Auburn, Cummins was a member of Alpha Pi Mu, an industrial engineering honor society, and the Physics Honor Society. After earning a bachelor's degree in industrial and systems engineering in 1992, he was employed for seven years in the medical device industry, where he gained experience in general manufacturing, quality assurance and regulatory affairs. His area of specialty was FDA compliance, including GMP and 510(k) regulations.

While pursuing his law degree at the University of Georgia, Cummins served on the editorial board of the *Journal of Intellectual Property Law* and practiced law under Georgia's third-year prosecutorial act, serving in the Office of the Solicitor for Athens-Clarke County. He graduated cum laude with a juris doctorate in 2002.

Cummins is admitted to practice in Alabama and the United States District Courts for the Northern and Middle Districts of Alabama. A member of the Alabama Defense Lawyers Association and the Defense Research Institute, he is also co-reporter for *Alabama Secretary of State Limited Liability Company and Partnership Laws*, Aspen Publishers.

Active in civic affairs, he serves on the board of directors of Big Brothers/Big Sisters of North Alabama.

## Logistics and storage expert joins ISE faculty



Kevin Gue

Join us in welcoming Kevin Gue as associate professor in the Department of Industrial and Systems Engineering. Before coming to Auburn, he was an associate professor of logistics in the Graduate School of Business and Public Policy at the Naval Postgraduate School in Monterey, Calif.

Gue's research interests include logistics modeling and optimization, with applications in distribution, warehousing, transportation and material handling. He is widely recognized as an authority in cross-docking, a logistics technique used in the retail distribution and transportation industries to reduce transportation and inventory costs.

He is also interested in problems associated with high density storage systems, with applications in automated warehousing systems and shipboard storage for the U.S. Navy. He has published articles in leading journals such as *Operations Research*, *Transportation Science*, and *IIE Transactions*.

Gue graduated with distinction from the U.S. Naval Academy in 1985 with a bachelor's degree in mathematics. He served as an officer in the submarine community onboard the USS Guitarro, completing two deployments to the Western Pacific. After leaving active duty in 1990, he attended the Georgia Institute of Technology where he received a master's degree in operations research and a doctorate in industrial engineering in 1995.

His background and interests in logistics, facility design and material handling are valuable additions to our teaching and research activities. We also anticipate that his connections with the Navy will enhance our opportunities to work on federal defense projects.

Gue is married to the former Bonnie Lynn Johnson of Mann's Choice, Pa., and has eight children.

## Modeling and optimization expert enhances program

The Department of Industrial and Systems Engineering welcomes Emmett Lodree as assistant professor. He comes to us from North Carolina A&T State University.

Lodree brings with him expertise in operations research, inventory modeling and optimization, supply chain logistics, and scheduling theory and applications. His teaching interests include production and inventory theory, statistics, linear and integer programming, operations research, and introductory mathematics. He is a member of both the Institute for Operations Research and the Management Sciences and the Institute of Industrial Engineers.

He received bachelor's and master's degrees in mathematics from the University of New Orleans in 1995 and 1997, respectively, before heading to the University of Missouri-Columbia where he earned a second master's degree in 1999 and a doctorate in 2001, both in industrial engineering.

In addition to enhancing our program with capabilities in inventory and production management, Lodree will teach statistics as a complement to Saeed Maghsoodloo, ISE professor.

A competitive racquetball player, Lodree also enjoys basketball, tennis and weightlifting. He and his wife have two children.



Emmett Lodree

## Scholarships established for manufacturing students

The Samuel Ginn College of Engineering is the recipient of a National Science Foundation Computer Science, Engineering and Mathematics Scholarships (CSEMS) grant to fund scholarships for mechanical and industrial engineering students who wish to pursue a career in automotive manufacturing.

Alabama is currently at the center of a fast-growing automotive industry cluster. Over the past 10 years the state has welcomed Mercedes-Benz, Honda, Toyota, International Diesel and Hyundai as well as numerous suppliers to its borders, resulting in more than 30,000 jobs and an annual payroll of \$1.4 billion. Other manufacturers located within the region include BMW, Nissan, Volvo and Saturn.

Manufacturing engineers have played a critical role in the start-up and operation of these enterprises and are hired at all degree levels — a trend that is expected to continue.

"The automotive sector is one of the most promising in terms of economic growth in the Southeast and in terms of developing the diverse, highly trained engineering workforce of the future," says Alice Smith, chair of the Department of Industrial and Systems Engineering and principal investigator of the grant. "With Auburn's strength in automotive engineering, leadership in student auto teams and minority engineering efforts, and status as the only NSF/Industry Center in the region aimed at vehicles, the match seems perfect."

A total of 29 scholarships per year for four years will be funded at the bachelor's (50 percent), master's (25 percent) and doctoral levels (25 percent). Scholarships will be awarded based on financial need and academic promise with attention to developing an interdisciplinary, diverse





A National Science Foundation grant is funding scholarships to help mechanical and industrial engineering students pursue careers in automotive manufacturing.

workforce of automotive engineers for the total supply chain — from vehicle design to assembly through delivery.

“We believe that this big picture approach will appeal to prospective students and will be of greater value to employers looking for engineers with concentrations in automotive manufacturing,” adds Smith.

Industrial tours, seminars, internships and on-campus research experiences provided under the auspices of the current NSF/Industry Center for Advanced Vehicle Electronics (CAVE) will provide complementary extracurricular activities for students. They will also have the opportunity to participate in a number of student vehicle design and building teams including the Society of

Automotive Engineers (SAE) Mini Baja and Formula racing teams and the Sol of Auburn solar car team.

Broader efforts will include outreach to K-12 students and teachers; minority recruitment, support and mentoring through the college’s BellSouth Minority Engineering Program; and local student chapters of the Society of Women Engineers, the National Society of Black Engineers, the American Society of Mechanical Engineers and the Society of Automotive Engineers.

“Our hope is that this scholarship program will help encourage further development of this industry within the region, which has historically been economically and educationally disadvantaged,” says Smith.

## Black receives education award

J T. Black, professor emeritus of industrial and systems engineering, is the winner of the 2004 Society of Manufacturing Engineering International Honor Award in Education. At the society’s annual meeting in Cincinnati in June, Black was recognized for his development of manufacturing-related curricula designed to foster sound training methods and inspire students to enter the profession of manufacturing.

Before joining the faculty at Auburn in 1984, Black taught manufacturing engineering to students at West Virginia University, the University of Illinois at Urbana-Champaign, the University of Vermont, the University of Rhode Island and Ohio State University.

During a career spanning more than 40 years, he has authored more than 70 technical publications and numerous books on manufacturing processes and systems including the leading textbook in the field, “Material and Processes in Manufacturing”, now in its ninth edition, “The Design of the Factory with a Future”, and “Lean Manufacturing Systems and Cell Design”.

While at Auburn, Black received numerous awards including the Birdsong Superior Teaching Award, the top honor in the College of Engineering, and was editor-in-chief of the *Journal of Manufacturing Systems* and the *Journal of Manufacturing Processes*.

## Faculty promoted

Congratulations to Jeff Smith and Rob Thomas. Both have been promoted to full professors in our department effective fall 2004. Full professor is the highest faculty rank.



J T. Black (right) accepts an award from Richard Peters, president of the Society of Manufacturing Engineers, at the awards banquet of the annual SME meeting in June.



Jeff Smith

## AU faculty chairs D.C. simulation conference

Jeff Smith, professor of industrial and systems engineering, chaired the 2004 Winter Simulation Conference (WSC), "The Premier Forum on Simulation Practice and Theory," December 5-8 in Washington, D.C.

The conference is the leading international forum for disseminating recent advances in the field of system simulation. The principal focus is on discrete-event simulation and combined discrete-continuous simulation. In addition to providing an excellent technical program, WSC offers a gathering place for those from many different sectors who are involved in simulation.

## Aerospace association honors AU doctoral student

The Aerospace Medical Association recently presented its 2004 Young Investigator Award to U.S. Air Force Major John Olson for work he performed as a doctoral student at Auburn.

The award was given for Olson's research paper "Tactile Display Landing Safety, Situational Awareness and Workload Reduction Improvements for the Space Shuttle", based on his doctoral thesis. He earned his doctorate in industrial and systems engineering from Auburn in 2003 and holds master's degrees from the University of Illinois and the University of Tennessee and a bachelor's degree from the Air Force Academy.

Over the summer, Olson, an Air Force test pilot, joined NASA as head of safety for the International Space Station in Washington, D.C. His work at Auburn University was supported by NASA-Langley and the Office of Naval Research human systems technology grants.

## Canady selected for Comer Scholarship

Congratulations to Evan Bryant Canady, a freshman from Dothan, Ala. and the recipient of the 2004 Comer Scholarship. A graduate of Houston Academy, Canady is the son of Donald and Cassandra Canady.



Evan Canady

## 2003 contributions to ISE endowments and scholarships

Please join us in recognizing the following Auburn alumni and friends whose generous support is helping to advance the vision of the college and the department as we position ourselves to join the ranks of the nation's top engineering institutions.

- Accenture Scholarship Endowment in Industrial and Systems Engineering, \$6,000 given by Joe W. Forehand Jr.
- Tim Cook's Endowment for Excellence, \$5,171 given by Tim Cook
- Parke Donald J./FPL Scholarship Endowment for Outstanding Students, \$3,000 given by Donald J. Parke
- Paton Family Scholarships in Industrial and Systems Engineering, \$2,500 given by Bruce R. Paton Jr.
- Manufacturing Engineering Endowment, \$1,125 given by an anonymous donor
- David William Howard Scholarship in Industrial and Systems Engineering, \$200 given by John W. Brodak



Melissa Gowan

## Academic advisor joins Auburn's ISE team

Please join us in welcoming Melissa Storey Gowan as an academic advisor in the Department of Industrial and Systems Engineering. She holds bachelor's and master's degrees in education from Auburn University and earned her juris doctorate from the Thomas Goode Jones School of Law in Montgomery in 2001.

Gowan will serve as academic advisor for both the undergraduate and graduate programs. She is married to Matt Gowan, a pilot with Rushton Air. They recently had their first child, a daughter Reese.

## Alumni listserv

Join the IM/IE/ISE alumni e-mail listserv by visiting:

[www.eng.auburn.edu/ie/alum.html](http://www.eng.auburn.edu/ie/alum.html)

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### AUBURN UNIVERSITY SAMUEL GINN COLLEGE OF ENGINEERING

DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING  
207 DUNSTAN HALL  
AUBURN UNIVERSITY, AL 36849-5346

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