Hansen Book Tells of Man who Warned of Shuttle Disaster

Twenty-three years after the Space Shuttle Challenger disaster, Auburn professor and author James Hansen has co-authored a book examining the causes of the U.S. space program’s first fatal in-flight accident.

Hansen, a professor of history and director of Auburn’s Honors College, teamed up to write the 626-page book “Truth, Lies, and O-Rings: Inside the Space Shuttle Challenger Disaster” with Allan McDonald. McDonald was an engineer who warned NASA officials that Challenger’s solid rocket motor could explode at ignition if launched on a very cold wintry morning in 1986.

In the book, which was just released by the University Press of Florida, Hansen assists McDonald in telling how his words of warning were ignored and how that decision led to fatal consequences.

“The fiery destruction of Challenger, with seven American astronauts on board, including the first ordinary citizen, a beloved schoolteacher, happened more than two decades ago,” writes Hansen in the foreword to the book.

He adds, “One might think that historians have duly recorded — and that the technical aerospace community has fully comprehended for some time — exactly why the U.S. space program’s first fatal in-flight accident occurred on the cold, heartless morning of January 28, 1986. Surely, the facts underlying the horrible tragedy must have all surfaced by now, all the evidence fully examined and reexamined, all the expert testimony scrutinized, all the critical failure points analyzed and digested, all the penetrating engineering studies performed, all the revelatory books and articles written, all the important lessons learned.

“It is not the case,” Hansen writes.

In the first published memoir by anyone directly associated with the decision to launch Challenger, McDonald, with Hansen’s help, writes about officials ignoring — and then covering up — the warnings he offered and the price he paid to expose the truth.

McDonald was director of the Space Shuttle Solid Rocket Motor Project for Morton Thiokol Inc. in Utah at the time. He was sent to Kennedy Space Center as the company’s senior management representative for the Challenger launch.

Hansen notes that in the years after the explosion, McDonald tried to avoid

while many firms are sitting on the sidelines waiting for the current economic slowdown to take a positive turn, an Auburn outreach unit is helping a local firm, Hoerbiger Automotive Comfort Systems Inc., use the economic situation to strengthen its competitive position.

Hoerbiger, which manufactures hydraulic lift cylinders for convertible tops and trunk lift gates for a number of the top automakers, has embarked on a Lean Enterprise Certification Program with the Auburn Technical Assistance Center.

Nationally recognized by the Society of Manufacturing Engineers and the Association for Manufacturing Excellence, Lean Enterprise Certification prepares an organization to implement lean manufacturing improvements. The program involves training

(Hansen, continued on page 2)
Message from the President

Dear Auburn Alumni and Supporters,

In many ways, Auburn is a much different place than it was even a decade ago, especially when it comes to the facilities and resources available to students. Construction and renovation are signs of a vibrant and dynamic campus, and you can’t turn around at Auburn without seeing something new. A perfect example is the new Village residence halls on the north side of campus.

The Village will take advantage of expanded Learning Communities where 20 to 25 students share classes and activities centered on a common theme. Although they don’t involve new buildings, these virtual communities help students transition to university life and achieve greater academic success.

Another component of the Auburn experience is the quality of its faculty, which is why we recently identified raising funds for 81 endowed professorships as a key strategic initiative for the university. Professorships reward faculty with exceptional merit. These funds offer a huge morale boost by providing salary enhancements to faculty who stimulate young minds and contribute to building programs that enhance the university. As part of this initiative, professorships can be established for $150,000, half the normal amount, from now until Sept. 30, 2009. Auburn will match the annual spendable funds, up to $7,500, into perpetuity.

Auburn alumni have given myriad gifts. Recently, two endowments have been established for the College of Business and another for the Ginn College of Engineering. The details for dozens of additional endowments are being worked out at this time.

The benefits of adding professors to the faculty, as this program is, will lead to a much greater emphasis of another component of the Auburn experience – international skills development. More than ever before, the world that our students will enter after leaving Auburn is interconnected and interdependent. Our courses will expose them to what it takes to be successful in today’s competitive, global economy, and we will continue to offer more opportunities for study abroad, foreign language training and learning about the world.

While much has changed at Auburn, one constant throughout its history has been the passion alumni and friends have for their alma mater. And that brings our mission to help students achieve their hopes and dreams closer to reality as we focus on the instruction and academic environment that is so vital to their future.

War Eagle!

Jay Gogue

Hansen

(continued from page 1)

publicity — first, because he was testifying in investigations, then because he was concentrating on redesigning the solid rocket motor for a safe return to space. But during that time, McDonald collected six big boxes of notes, including 1,400 handwritten pages about what happened. He retired in 2001 and decided it was finally time to tell his story.

Hansen said the main reason McDonald wanted his story published was that he did not want the lessons learned to be forgotten, and he wanted to make sure there would not be another such disaster.

Hansen said “Truth, Lies and O-Rings” isn’t just about what went wrong with the Challenger disaster but it is also about what went right as it also recounts what McDonald and others did to redesign the solid rocket motor and get the Space Shuttle flying again. “The first time a shuttle returned to space after the accident, in 1988, Al was there,” Hansen said. “During the countdown, he was holding his breath, along with everyone else. I was doing the same at home, watching TV. I had no idea then that I would team up with Al to tell his powerful story.”
Auburn researchers Mark Byrne and Jacek Wower have developed a way to provide more control over the release of drugs into the body and, as a result, reduce the frequency of doses and side effects from multiple medications.

Their work involves harnessing the power of nucleic acids to control the rate, release amount and delivery location of medications throughout the body.

“We anticipate tremendous benefits to the treatment of various cancers and viral infections,” said Wower. “There is a need to create tailor-made treatments for these kinds of diseases because one person may respond differently to a medication than another. Medicine of the future will take into account a unique genetic blueprint of every patient, increased risks for certain illnesses and how patients respond to disease and therapy.”

Byrne and Wower, along with doctoral student Siddarth Venkatesh, used tiny RNA molecules called aptamers to control the release of drugs. For each patient, the drug delivery can be set to occur at various rates or under certain conditions, including exposure to an enzyme or reaching a specific temperature. Unlike past studies, this technology is capable of delivering doses of multiple drugs at different rates or a single drug at controllable and extended rates from one medical device.

“Nucleic acids work well for controlled drug delivery because they can easily be programmed to bind therapeutics, metals, other nucleic acids and proteins,” said Byrne. “Based on the patient’s needs, the strength of the binding can cause drugs to release at varying rates and amounts over a certain time and can be controlled in a variety of ways.”

The research team, which now includes doctoral student Padma Sundaram, is also using gold nanoparticles for targeting specific cells to deliver injectable drugs. The gold nanoparticles are biodegradable or excretable and can be injected directly into the bloodstream along with the medication. The combination could prove to be an important step for providing multiple-drug releasing carriers capable of delivering the right amount of medication at the right time.

Wower, a professor in Auburn’s Department of Animal Sciences, is a biochemist who studies the structure and function of RNA molecules. Byrne, whose expertise is biomedical engineering, biomaterials, biomedical devices and drug delivery, is the Sanders Associate Professor of Chemical Engineering at Auburn.

The researchers recently presented their findings at the American Institute of Chemical Engineers meeting in Philadelphia.

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**Message from the Provost**

To the Auburn Family,

In the four months I have served as provost and vice president of Academic Affairs for Auburn University, I have been extremely impressed with the faculty, student, staff and alumni dedication to the institution. Even during these difficult budget times, there is a positive attitude among all our constituencies that we can continue to grow and build the reputation of the university. This is especially exemplified when we review the results of the recent faculty/staff campaign. Not only do we remain No. 1 in the SEC with 70 percent of our faculty and staff giving to the campaign, but we also exceeded our previous record of giving. I am so proud to be at an institution that believes that we can make a difference by giving to others and am proud of the scholarships that I had the privilege to create to increase and support the nationwide emphasis on recruiting more women to major in the sciences.

During these early months of my arrival on campus, I have worked with President Gogue and the administrative staff to ensure the continual implementation of the University Strategic Plan. With the excellent work of a number of task forces, we can now begin to implement a new model for the Honors College, a new general education program, a university-wide writing initiative, greater support for distance education, new ways to retain our students and increase our graduation rate, and new initiatives to enhance the international skills and experiences of our students and faculty and involve them in more service-learning activities and efforts. This engagement in worthwhile and strategic priorities will allow Auburn University to move forward to become a model land-grant institution in the 21st century.

In the coming months, I plan to continue to work with our faculty and students to ensure we are all working toward the university’s strategic goals. We ask that our alumni support us as we aspire to increase the national and international recognition of our teaching, research, outreach and extension missions. Our academic programs are strong, but by working collaboratively, we can take them to new levels of achievement and advance their reputations across the country and the world.

Please feel free to contact me if you have ideas and suggestions for furthering the academic mission of Auburn University. It is always a joy to discuss the successes of Auburn with the dedicated alumni and supporters of this great institution.

War Eagle!

Mary Ellen Mazey
Auburn Debuts Collegiate License Plate Design

Auburn University has introduced a new design for its collegiate license plate to be available beginning in August.

Proceeds from the sale of Auburn University license plates in Alabama go to the Auburn University “License to Learn” Scholarship Endowment Fund, a statewide program that raises funds for freshmen scholarships. Approximately $1.2 million in scholarships was awarded in 2008-09.

The state requires the collegiate license plate designs to be changed every five years. The new design features the interlocking AU logo on the left side of the tag, an orange gradient at the bottom and a blue gradient at the top, with “Auburn” in orange at the top of the tag. The new design will allow for six characters; past designs have had space for only five. This will allow for additional personalization options.

Several new designs were considered, but in the end, Auburn alumni voiced their opinions via a survey, and one design in particular was overwhelmingly the favorite. “I appreciate the university asking Auburn in-state alumni to participate in choosing the new tag design,” said Debbie Shaw, vice president of alumni affairs. “Our alumni love to show their support of Auburn and what better place than on the highways every day.”

Auburn University collegiate license plates will be available at local county license offices beginning in August. Both numbered tags and personalized tags are available; the cost of either one is $50 above the normal tag cost of $24.25. Collegiate license plates may be purchased at any time, regardless of the individual’s tag renewal month.

Auburn tags are also available in Georgia, Tennessee, Virginia, Mississippi and South Carolina. The new Auburn tags will be available this fall in North Carolina. Tag sales from North Carolina and South Carolina also benefit scholarships.

For more information on Auburn’s car tag program, go to www.auburn.edu/cartags or call the Auburn University Alumni Affairs office at (334) 844-2586.

AAA Building Fund for Scholarships With Toomer’s Bricks

For a limited time, the Auburn Alumni Association is offering authentic Toomer’s Corner bricks for $100 each. Proceeds benefit the organization’s endowed scholarship fund. Workers recently excavated more than 1,000 of the red-clay pavers from under the beloved twin live oak trees at the corner of Magnolia Avenue and College Street. In an effort to improve the live oaks’ health and thereby continue one of Auburn’s most beloved victory rituals, the rolling of Toomer’s Corner, the university has replaced the bricks with mulch and a pervious sidewalk that allows air, water and nutrients to reach the trees’ roots. Each brick sports a metal plate marked with Auburn’s familiar interlocking AU logo and the words “Toomer’s Corner.” Bricks cannot be shipped but may be ordered online, by phone or by e-mail and picked up from the Auburn Alumni Center at the corner of College Street and Miller Avenue. All contributions to the Toomer’s Corner brick campaign will be applied directly toward scholarships aimed at attracting the best and brightest students to Auburn University, said Debbie Shaw, vice president for alumni affairs at Auburn and executive director of the Auburn Alumni Association.

For more information or to order a Toomer’s brick, contact scholarship coordinator Toni Littleton-Rich at 334/844-7420 or tonilittletonrich@auburn.edu.

Auburn University’s Physicians Executive MBA (PEMBA) program in the College of Business 16th in the nation among all business-related graduate degree programs for physician-executives, according to the journal’s May issue. Among MBA programs, Auburn’s program is ranked fifth. “This is the seventh consecutive year that Modern Healthcare has surveyed graduate business programs,” said Paul Bobrowski, dean of the College of Business. “The fact that the Auburn PEMBA program has appeared in the rankings every year since they were first published in 2003 is a tribute to the quality of the faculty and the students in the program.” The rankings were based on a list of programs awarding MBAs or similar degrees such as master’s in health administration, that focus on physicians. The College of Business will celebrate the 10th anniversary of the Physicians Executive MBA program this fall. This professional distance education program is provided via an online format combined with six on-campus sessions over a two-year period. As a result, the program accommodates doctors who find it difficult to leave their practices for more than a couple of days a week.
Civil War Letter Detailing Lee’s Surrender Donated to Auburn

Auburn University recently acquired a letter documenting one of the more dramatic moments in American history: Robert E. Lee’s surrender of the Army of Northern Virginia.

On April 9, 1865, Lee met with Ulysses S. Grant at Appomattox Court House. In a letter of the same date, Grant gave Lee the terms of surrender.

The following day, Grant apparently made a handwritten copy of the April 9 letter for posterity’s sake, dating it April 10.

“Before the days of copy machines, it was common practice to produce more than one handwritten copy of important documents,” said Dwayne Cox, head of Auburn Libraries Special Collections. “In 30 years as an archivist, I have never received an item of greater significance.”

Auburn acquired the April 10 letter through the generosity of 1971 graduate James L. Starr.

“Something as historically important as this should be preserved for future generations,” Starr said. “I knew Auburn’s collection was the best place for it. Now it can be enjoyed by students, scholars and the general public.”

Grant’s terms included the parole of all officers and enlisted men in Lee’s army. In this context, parole meant the promise of a prisoner of war not to take up arms again against his captors.

The terms called upon Lee’s army to surrender their artillery and other weapons but excluded officers’ sidearms, as well as private horses and other personal items.

Finally, Grant allowed officers and men to return to their homes, “not to be disturbed” by United States authorities, provided they observed their parole and the laws of their localities.

Historians consider the latter provision an attempt on Grant’s part to preclude treason trials. Generally, scholars interpret Grant’s terms of surrender as magnanimous.

Kenneth W. Noe, professor of history at Auburn and an authority on the Civil War, called Starr’s donation “a welcome addition to the university’s holdings of letters, diaries and rare books” related to the conflict.

Bonnie MacEwan, dean of libraries, commented that “gifts like Mr. Starr’s give the Auburn University Libraries its distinct personality, making our collection unique.”

The Grant letter eventually will appear in Auburn’s Digital Library along with all of the university’s Civil War manuscripts, probably during the Civil War sesquicentennial, which begins in 2011.

Study Shows Perfectionism Hits Working Women

A study by Jacqueline Mitchelson, assistant professor in the Department of Psychology, is receiving international attention through outlets such as BBC News and In The News. Her study, published in the Journal of Occupational and Organisational Psychology, questioned almost 300 working adults about their work-to-life balance.

It found that women suffer more than men when it comes to feelings of inadequacy at home and at work. Health experts say maintaining a good balance is important to general mental health and well-being, and warn the pursuit of perfectionism can have negative health effects, especially if the subject feels there are inconsistencies between standards and actual performance.

“We also have greatly reduced the amount of our work in process, which significantly holds down inventory costs,” said Production Coordinator Marie Buchanan. “And by improving the cross-training of our operators, we have not only improved production efficiency, but we have avoided layoffs.”

ATAC has trained more than 85 percent of Hoerbiger’s 35 production employees through the LECP initiative. Those efforts netted a reduction in overall cycle time of more than 53 percent on one line and a reduction in operator distance traveled of nearly 9,000 feet per shift.

The initiative also has shown bottom-line results in the area of quality, according to Human Resources Manager Kimberly Couch, who noted that quality inspection is now integrated into the manufacturing process instead of being a separate and disconnected step.
Students in Auburn’s 2008-09 class of the Design-Build Master’s Program have recently graduated and are going their separate ways. However, their collective work outside the classroom while at Auburn will leave an indelible mark on one Macon County community.

The 12 students in the program, under the guidance of D. K. Ruth, director of the College of Architecture, Design and Construction’s Design-Build Program, and Anthony Tindill, visiting assistant professor in the McWhorter School of Building Science, dedicated the past year to helping restore the Shiloh-Rosenwald School. Built in the 1920s, the three-room, wood-frame building provided a place to educate African American children in Notasulga and the surrounding area for more than 40 years until federally mandated integration.

The project actually began nearly 90 years ago when the school and similar facilities were born out of a collaboration of African American educator Booker T. Washington and Sears and Roebuck president Julius Rosenwald. Concerned about the state of education for African Americans in the South, the two developed a partnership to build schools for rural African American youths. In 1917, Rosenwald created the Julius Rosenwald Foundation, donating millions of dollars to public schools, colleges and universities.

The Shiloh community in Macon County was one of the beneficiaries of the foundation’s funding. Built in the 1920s, Rosenwald schools served as prototypes for the initiative to make education available in poor communities. In 2002, the schools were placed on the list of 11 endangered places by the National Trust for Historic Preservation. Of the Rosenwald schools built in Macon County, only the Shiloh school is still standing.

Three years ago, Elizabeth Sims, a graduate of the Shiloh-Rosenwald School, formed the Shiloh Community Restoration Foundation to help restore the school and maintain the Shiloh Cemetery and the Shiloh Missionary Baptist Church, which sits next to the school and played an integral role in the Tuskegee Syphilis Study. The foundation coordinated the effort to restore and reopen the school as a museum and community center.

“When this small grassroots organization was formed, I knew that it would be difficult to raise the kind of money we needed for the project or hire the caliber of experts required to get the project done,” Sims said. “My next thought was to form collaborations.” Sims contacted Royrickers Cook, Auburn’s assistant vice president for university outreach. “Dr. Cook was so impressed with what we were doing that he gave us partial funding and contacted D. K. Ruth about the program,” she said.

Ruth and the design-build students took on the project and provided drawings, estimates and a historical architect to assess the building. Then the students, along with Tindill, created a comprehensive plan for an adaptive reuse/rehabilitation that balanced saving the building’s historically significant features with providing an energy-efficient building. Sims expressed a need for an area with access to computers, restrooms, a museum to house Shiloh’s historical artifacts and a gathering space to be used for community events. The students consulted with the Alabama Historical Commission to ensure that the history of the building was kept intact while providing modern updates to the space.

In partnership with undergraduate architecture students from Tuskegee University, design-build students restored and replaced the original six-foot, double-hung windows, discovered and repaired major structural failures in the front wall of the school, and created a technology/community room, the Elizabeth Ware Sims Community Resource Center, including new bathrooms and new electrical and HVAC systems.

“The (design-build) students are 12 of the brightest and most talented bunch of students I have ever had the pleasure to work with,” Sims said. “They have been amazing!”

Journal Lists Encyclopedia of Alabama Among Best Free Reference Sources

The Auburn-based online Encyclopedia of Alabama has been named a “Best of Free Reference” by Library Journal. The annual best reference list is released each year in April and covers print and online resources.

Officially launched in September 2008, EOA is an online resource covering all facets of Alabama. The project was developed through a partnership between Auburn and the Alabama Humanities Foundation.

The Encyclopedia of Alabama editorial staff is based in the Department of History in Auburn’s College of Liberal Arts.

With its emphasis on authoritative content based on sound scholarship with its articles on Alabama’s cultural and natural environment, the Encyclopedia of Alabama is similar to a traditional print encyclopedia. And its online nature makes it a modern reference tool, offering video, audio, graphics and links to relevant materials.

A list of the people and organizations that have funded the development of EOA may be found on the Web site: www.encyclopediaofalabama.org.
Four Freshmen: Not a New Singing Group but Quads

There’s a lot of orange and blue around the Haynes house these days. Like lots of other families throughout the state, Tammy and Bruce Haynes of Ohatchee are preparing to send their children to Auburn this fall. However, unlike those other parents, Tammy and Bruce are sending four to Auburn at one time.

The Haynes quadruplets — Elizabeth, Sarah, Will and Caitlin — will be freshmen at the university come August and recently attended the first session of Camp War Eagle. Each is excited about facing college life together, but they are also looking forward to stepping out on their own.

“We’re from a small school so we have a lot of the same friends,” said Caitlin, graduating with a class of 61 at Ohatchee High School. “I’m excited about coming to Auburn and finding independence and getting out of the bubble.” Will agrees, saying he is looking forward to meeting people from different backgrounds and “experiencing a new atmosphere.”

Although no specific records on the subject have been kept, administrators say it appears that the Haynes quadruplets are the first set of quads to enroll at Auburn.

While each is personable, they have very different attributes. Elizabeth is deemed the social and outgoing one, perfect for her career choice in public relations. Sarah is the self-described shy and dramatic one. Caitlin, the tidiest of the four, is a planner. She and Sarah are both pursuing majors in human development and family studies. And although all four are in the top five of their graduating class, the girls agree that Will, a business major, is the smartest of the bunch.

To some, the siblings might be familiar. Since they were toddlers, Elizabeth, Sarah, Will and Caitlin were known as the “Alfa quads” for a series of advertisements they did for Alfa insurance featuring the foursome along with their family — mom, dad and older sister Anna Lee. The campaign ended a couple of years ago.

Although the commercials provided some added income while the quads were growing up, Tammy said there is a misconception about just how lucrative they were. “We actually only got paid according to the Actors’ Guild for the days we worked,” she said. “But the experience was great. We met a lot of people, and it really taught the kids a lot.”

One thing they learned, she said, was the value of hard work. It is something the quads will rely on to help with the costs of sending four to college at one time. Although the Hayneses have each earned a scholarship to Auburn, the family is still faced with four times the cost of books and four times the apartment rent among other things. The four said they will use student loans to help defray some of the costs, and they will all be looking for part-time jobs this fall to help supplement their college expenses.

“I’m ready to work hard, and I’m excited about living on my own,” said Elizabeth, who will share an apartment with her sisters and a friend. Will is living with a group of friends in the same apartment complex, just “across the parking lot.”

But counter to the financial challenges, Sarah said the siblings will actually have one definite advantage over other incoming freshmen, many of whom will be leaving home for the first time. “We won’t get homesick,” she said, “because we’re bringing our family with us!”

Campion Wins Fellowship To Study in Rome

The American Academy of Arts and Letters has awarded a faculty member in Auburn’s College of Liberal Arts a fellowship for a one-year residency at the American Academy in Rome.

The Academy awarded Assistant Professor Peter Campion of the Department of English the 2009-10 Rome Prize Fellowship in Literature, which is presented annually to two writers with exceptional promise. The Rome Prize is an American award given annually through a national competition to 15 emerging artists working in architecture, landscape architecture, design, historic preservation and conservation, literature, musical composition or visual arts; and to 15 scholars working in ancient, medieval, Renaissance and early modern or modern Italian studies.

Literature is the only field for which applications are not accepted; writers are nominated by members of the American Academy of Arts and Letters and are chosen by a committee comprised of members.
On May 9, Vincent “Bo” Jackson went a step beyond a promise he had made to his late mother during his days as one of America’s most-celebrated athletes. He fulfilled that promise when he graduated from Auburn in 1995, after retiring from sports. Now a successful Chicago-based businessman, he returned to Auburn in May as the featured speaker at spring commencement.