The goals of the typical engineering student haven’t changed much over the years. Choosing the right courses, maintaining good grades, and earning a degree have been priorities among students in the UAB School of Engineering since the school was formed in 1971. But while the ultimate goals may have remained the same, the typical student has changed—in some cases dramatically.

“The School of Engineering has evolved as the university as a whole has evolved,” says School of Engineering Dean Linda Lucas, Ph.D. “For so long, we were an extension of the University of Alabama, so we directed our efforts toward the commuter-style students who came to class and then went home. As that profile has changed toward younger students who come here full-time after high school, we have seen a shift in the overall lifestyles of our students.”

The biggest change, Lucas says, is the increased involvement in campus life, where School of Engineering students have become a very visible part of the UAB student body.

“This was especially noticeable this past fall when we won several of the university-wide Homecoming competitions,” Lucas says. “Twenty years ago, I’m not sure if some of our students were even aware that we had Homecoming.”

**Evolution Revolution**

To be fair, the homecoming events in earlier years were held in the winter during basketball season instead of during football season. But the

(Continued on next page)
creation of a UAB football program in the 1990s is just one of the changes that have affected student life on campus. And just as faculty and administrators catered to a certain type of student 20 years ago, Lucas says school officials continue to look for ways to accommodate the changing student profile.

“We moved into the Business/Engineering Complex that houses most of our core classes in 1983, and that building had been designed with an eye toward the needs of the typical student up to that time,” Lucas says. “Back then our students were mostly commuters who left here to take care of jobs and/or families. Today, you still see a lot of our students working, but I think more and more of them are full-time students who are able to concentrate on getting their degrees first with careers coming after that.”

Having one’s academic and social life centered around the college experience doesn’t mean better training in engineering, Lucas says, as decades of successful alumni can attest. It does, however, allow for a different kind of educational experience, one in which lessons learned don’t always show on a grade report.

“About a year ago, I participated in a program called ‘Into the Streets,’ where students went out and participated in projects to help improve the area,” says senior civil-engineering major Shunna Cannon. “I realized then that being a college student is about more than just going to class—it’s about becoming a productive part of your community. Even though I may earn a degree, its real value will be judged by how I share my experience and expertise with others.”

**Seeing, Believing**

Even though the past 33 years have seen significant changes in the student body, public perception doesn’t always change so quickly. That
often creates a challenge for recruiters who believe the active student life to be one of the school’s strongest selling points.

“A lot of the high-school students I talk to ask me what is available to students besides going to class,” says Norma Sorenson, Ed.D., director of student services for the School of Engineering. “There are a lot of things available to students in terms of extracurricular activities because of where we are located, and there are also a lot of opportunities for engineering students to receive real-world experience through part-time jobs and internships that complement the education they are getting in the classroom. (See story on Page 5.) In my opinion, that is one of UAB’s greatest strengths.”

Senior mechanical engineering student Patrick Crossley admits that the “commuter-campus” perception was a strike against UAB when he was considering schools, but it was one that vanished soon after he set foot on campus. “As a freshman, my intention was to start at UAB and transfer to another university,” says Crossley. “Once I got here, I never gave another thought to transferring. I liked the school, I liked the campus, and I realized that I can’t get a better education anywhere else. For a lot of reasons, I figured UAB was as good an engineering school as you’ll find anywhere.”

“Because it’s in such an urban environment, I was surprised at how much campus life there is at UAB,” agrees Cannon. “I grew up in Birmingham, but I was impressed when I got here by how the university has incorporated traditional aspects of college life into the experience here.”

Teaming Up

Campus life at UAB has come a long way in a relatively short time, but none of the changes have been sudden. And those gradual changes have allowed faculty and school administrators to adjust their approach as the needs and capabilities of students have changed.

Dr. Rizk’s primary focus is in construction. His work here will provide a valuable link to the already strong presence of construction companies in the Birmingham area, not only as our students work toward careers in that field, but also as we begin to provide more educational opportunities for professionals looking to further their expertise and receive extra certification.

Dr. Dean will focus on nanocomposite materials, working with a team of researchers that is currently being developed. He brings capabilities in the nanocomposites area that will be useful as his team applies its skills to a variety of projects, from designing new bus components to military applications.

We would also like to recognize the fine work that is being done in our Environmental Health Engineering Program—a young program that continues to open possibilities for interdisciplinary research. In all of these activities, we see our school constantly advancing in its effort to provide the utmost in education and research, and we thank all of you—our alumni, friends, and supporters—for your continued interest and support.

Linda C. Lucas, Ph.D.
Dean, School of Engineering
Lucas says faculty have taken advantage of full-time students’ status by emphasizing teamwork and incorporating group projects into the curriculum. In the freshman-level Introduction to Engineering class, for example, students participate in a five- or six-week team project that requires them to spend time collaborating away from the classroom. The obvious benefit, Lucas says, is a hands-on learning experience that supplements what is taught through lectures. But there are also some subtle effects.

“It creates the kind of experience you can’t get if you’re leaving town right after class,” Lucas says. “It puts students in contact with people they might not have ever talked to otherwise. An athlete might work with someone from the show choir or someone who writes for the school paper; someone who has lived his whole life in Birmingham may find himself working with a student from Africa or Asia. It helps foster that sense of community that is so important to the college experience.”

Another important result of those early collaborations is the experience of working as a team—an essential skill for most engineering professionals. “One of the challenges of engineering is that you’re going to have to do more than just make the right calculations—at some point, you’re going to have to apply those numbers to specific problems and relay information to others in ways they can understand,” Crossley says. “A lot of people can do calculations, but there aren’t a lot of people who can understand them and explain them to other people. In nearly every class I’ve taken, we’ve had some level of teamwork that has helped develop those skills.”

A Winning Spirit

That sense of teamwork comes more naturally for some students than for others. With the UAB athletic department now celebrating its 25th anniversary, a number of athletes on the university’s 14 Division I teams have earned degrees in engineering, balancing the challenging coursework with schedules that included practice, games, and often extensive travel.

But that spirit of competition isn’t confined to the courts and playing fields. In addition to the annual homecoming contests, School of Engineering students have excelled in a variety of university-wide contests as well as statewide, regional, and national competitions that require them to work as teams. Some examples include the concrete canoe, the Baja Car, and the Robot Competition. “The main draw for these kinds of things, I think, is that they can be a lot of fun,” Lucas says. “But they also help prepare students for longer-term efforts such as the senior design projects.”

Of course, the increased focus on student life in recent years has never been purely academic. More and more traditional, full-time college students are making UAB their first choice; and when young people get together in such large numbers, they create the kind of vibrant, participatory student environment that now exists at UAB. Lucas says it is the faculty’s responsibility to take advantage of that environment.

“We as faculty and administrators didn’t create this new atmosphere,” Lucas says. “It would be wonderful if you could snap your fingers and create something like that, but the environment we have now has come about because of the students who are here. They make the school what it is. We are very lucky to have the kind of faculty who can relate to the students and who realize that an active student body does more than make this a fun place to be. It also makes it a great place to learn engineering and a first choice for more and more students.”
No one wants to be a heart surgeon’s first patient. And few would board a plane knowing that the pilot is making his first solo flight. When it comes time to perform, there is no substitute for experience—no matter how extensive a person’s knowledge is in a particular area.

The same rule applies when it comes to an engineering graduate looking for work in a competitive field. More often than not, those with some amount of hands-on experience will be the ones employers pick. That’s why faculty in the UAB School of Engineering have renewed their focus on experiential learning—an effort to make sure capable students get the opportunities they need to apply the skills they’ve learned in an educational environment.

“The concept of experiential learning is incredibly important to what we teach here, and we are looking at it in several different ways,” says Linda Lucas, Ph.D., dean of the School of Engineering. “One of the main ways is through the honors programs we have developed in each of our five departments, where our top students each year will work on research during their junior and senior years. We are also stressing the importance of co-op experiences, short- and long-term internships, and other part-time employment opportunities in engineering-related positions in the Birmingham area.”

Such experiences, Lucas says, have long been a part of the college experience for many School of Engineering students, as programs such as the Industrial Scholars Program have proved to be useful tools in attracting the brightest students to UAB.

“The chance to participate in the Industrial Scholars Program was the reason I chose to enroll at UAB,” says Larry Fantroy, a senior majoring in electrical engineering who works as a student engineer for Alabama Power. “You learn a lot of things in class, but you might not understand their importance until you apply them in a job situation.”

“The work definitely helps out with the things you learn in class,” says Brandon Todd, a junior who is doing an internship with Vulcan Engineering. “You’re able to see a real-world application for some of the things you’ve studied, so you have a concrete example of what you’ve been told in a classroom.”

The benefits of doing such work while still in college are undeniable. For some students, it may simply be a way to explore different career paths before going on to graduate school. For others, it may be the “foot in the door” they need to get an early start on lifelong careers.

UAB senior Patrick Crossley currently works as an intern at the Citation Corporation’s Columbia Facility, but he says he plans to continue his work there after graduation—an opportunity many engineering graduates around the region might envy.

“I’ve talked to a lot of people who’ve gone to schools that people might think of as larger or more traditional universities, and they were not able to find jobs because they didn’t have any experience,” says Crossley. “I realized early on how fortunate UAB students are because we have opportunities to get valuable experience while we are still in school.”

“It’s important to make that connection,” Lucas agrees. “The students who are going to graduate and get the very best jobs are the ones who have some level of experiential learning while they’re in school. They are going to be able to go out and say, ‘Yes, I have a diploma; and yes, I have a degree; and yes, I have experience with this type of work.’ They are going to get the best jobs, and they’re going to get them sooner.”
At first glance, the highways of Birmingham and the pyramids of Egypt don’t appear to have much in common. But when Tarek Rizk, Ph.D., assistant professor of civil and environmental engineering, considers the two, he sees similar possibilities.

Rizk is a native of Egypt and an engineer whose research focuses on the use of composite materials to improve the infrastructure of Alabama’s roadways. “These materials are stronger than steel, they’re lighter, and they don’t corrode,” says Rizk. “They are suitable both for building new infrastructures and for preserving old ones.” The “old ones” include historic and sometimes ancient structures.

Last December, Rizk helped organize an international conference in Egypt on how to preserve ancient buildings and monuments using composite materials.

“The end goal of all this work is to build more durable structures,” says Rizk, who joined UAB’s team in August. “The American infrastructure is

Derrick Dean, left, and Tarek Rizk are two of the latest additions to the UAB School of Engineering faculty.

FACULTY NEWS, AWARDS, AND HONORS

Lucas Named to NIH Council

School of Engineering Dean Linda Lucas, Ph.D., is one of ten scientists serving on the recently established National Advisory Council for Biomedical Imaging and Bioengineering.

The Council is the major advisory group to the National Institute of Biomedical Imaging and Bioengineering, a component of the National Institutes of Health, and provides recommendations on the conduct and support of biomedical imaging and bioengineering research and training.

Sisiopiku Receives Fellowship

Associate Professor of Civil and Environmental Engineering Virginia Sisiopiku, Ph.D., recently was awarded an Eisenhower Faculty Fellowship from the U.S. Department of Transportation, Federal Highway Administration. As a recipient of the fellowship, Sisiopiku received $3,000 in travel funds that allowed her to participate in the 2003 International Cooperation on Theories and Concepts in Traffic Safety in Vancouver, British Columbia, and the 2003 ITE Annual Meeting and Exhibit in Seattle, Washington.
deteriorating much faster than our ability to maintain it. I am hoping we can build structures that will last longer and will save millions of dollars.”

Among his accomplishments, Rizk can claim a United States patent (for a wrapping for strengthening structural columns or walls) and a recent award for the overall best paper from the Civil Engineering Division of the American Society for Engineering Education. Even with such lofty credentials, he says joining an outstanding faculty such as UAB’s is an honor not taken lightly. “I came to UAB because our department chair, Dr. Fouad H. Fouad, showed me we have a potential for growth, and it’s a school that’s recognized nationwide,” Rizk says.

The Department of Materials Science and Engineering is also expanding its faculty with the addition of Derrick R. Dean, Ph.D., who began teaching courses in nanomaterials in January 2004. Dean, an Alabama native, comes to UAB from Tuskegee University where he has taught materials engineering for the past four years. When he heard UAB was looking for someone to teach and conduct research in nanomaterials, he says he eagerly applied for the job. “I like the atmosphere here,” Dean says. “It’s conducive to multidisciplinary interaction, and people seem very open to collaboration.”

Nanomaterial research is “a hot area right now,” Dean says. He cites the television commercials for Dockers® stain-resistant pants as an example. “They resist stains because of the nanomaterials built into the fabric.” Nanomaterials have features that are on the scale of nanometers—“about a thousand times smaller than a human hair,” Dean says. “If you can build those features into materials, they can become multifunctional.” For example, the inclusion of carbon nanotubes in polymer fibers imparts strength and flexibility to the fibers, as well as electrical conductivity. “This enables you to envision futuristic applications—smart textiles, fabrics made from fibers that are electroconductive,” Dean says.

One athletic-shoe maker, Converse®, already uses nanomaterials in one of its shoes. Helium is encapsulated by a nanostructured film which has enhanced barrier properties. This inhibits the diffusion or leakage of the helium, resulting in a sustained cushioning effect. “It’s a high-tech/low-tech application of nanomaterials that’s already on the market,” Dean says.

Dean’s work in polymers and nanomaterials will provide a nice complement to many of the activities in the materials department. “The potential uses of nanomaterials range from structural to biomedical, and that makes it exciting to be at UAB,” Dean says.

Covering All the Bases:
PROGRAM CROSSES BROAD RANGE OF DISCIPLINES

In the midst of a tough job market, the UAB School of Engineering has high hopes for its joint Environmental Health Engineering Ph.D. Program, a program that was reinvented in 2002 to help graduates embark on fulfilling careers.

Created as a partnership between the School of Engineering and the School of Public Health, the program is based on industry needs in the region, says Program Co-Director Melinda M. Lalor, Ph.D. “Industry today wants students who are broadly trained and better able to shift focus as markets and the needs of society change. This program provides students with a much broader base because it cuts across disciplines.”

Students in the program choose a home school, and specialize in one discipline, but they supplement their training with supporting classes available in a variety of departments in both Engineering and Public Health.

“Graduates from our program have the background they need to not only improve engineering designs, but also influence public policy to improve environmental quality, and ultimately public health,” Lalor says.

Under the direction of Lalor in the School of Engineering and Co-Director Kent Oestenstad, Ph.D., in the School of Public Health, the doctoral program has grown from three students enrolled in 2002, to 20 students in 2004.

Additionally, the schools recently launched the Summer Research Experience for Undergraduates in Environmental Health Engineering. The program introduces 12 students each summer to environmental health engineering as they work with UAB faculty on their ongoing research. The summer workshop is funded by the National Science Foundation through 2007.
A skateboarding faculty taught their freshman and sophomore students as much as they could during the fall semester’s Introduction to Engineering classes. But when it came time to evaluate their work, they deferred to a team of experts. Those experts came in the form of skateboarders ranging in age from 15 to 26—because while professors could teach everything they knew about design and construction of materials for specific tasks, the real test comes when the finished product is actually put to use.

More than 60 students spent weeks working in teams to design and build the best skateboards possible, then watched as boarders from the Hoover-based Ride Skateboards team tried out the rides on ramps behind the Business-Engineering Complex.

The boards were built using composite materials and techniques normally associated with the aerospace industry. The teams were evaluated on the cost of their design as well as their engineering decisions.

“The key to getting good engineering students is getting them interested,” says Associate Professor Gregg Janowski, Ph.D. “It’s not all calculus and chemistry.”

Each of the skaters chose different boards as their favorites, but they each praised their choice for flexibility and durability.

More than 150 students from 10 local high, middle, and elementary schools participated in the 15th annual Brent Newman Memorial Egg Drop Contest during the National Engineers Week celebration in February. The event was presented by the UAB Student Section of the American Society of Mechanical Engineers.

The purpose of the Egg Drop is to encourage imaginative thinking and introduce K-12 students to concepts in engineering, science, and technology. The contest entries were judged first on survival of the egg and second upon the weight of the device that protects the egg.

The week-long celebration started off with the annual Alumni Luncheon, which was well attended this year by alumni, faculty, Engineering Advisory Council members, Engineering Foundation Council members, and student candidates selected for UAB Engineering Student of the Year. The speaker for this year’s luncheon event was Ray L. Watts, M.D., chair of the UAB Department of Neurology.

Area high-school students put their engineering skills to the test in the annual Egg Drop Contest.
UAB School of Engineering students took advantage of a rare chance to meet a wide variety of engineers last fall when Birmingham was the site of the Society of Women Engineers annual conference.

The conference theme was “Supporting the World Through Engineering,” and it attracted more than 3,000 people from every facet of the engineering profession, as well as a large number of professors and students.

“The national conference is a wonderful opportunity for students to network among some of the leading professionals from across the country in our field and to attend several professional development programs aimed specifically at those about to embark on their career,” says Jennifer Gray, president of the Birmingham SWE chapter.

Keynote speakers addressed the main topics of enterprise, environment, and education, while students at the conference participated in sessions on finding scholarships, building a resume, choosing a graduate school, and more.

A mentoring banquet was held at the McWane Center in downtown Birmingham prior to the Student Awards Ceremony, and a job fair gave students the chance to meet 200 prospective employers.

For more information on SWE and the annual conference, visit the organization’s Web site at www.swe.org.

Earning a Girl Scout patch or badge is a rewarding experience in itself. But this year, more than 60 area Girl Scouts got the added bonus of experiencing first-hand what engineering is all about through the UAB Women in Engineering and Technology Workshop. The workshop was presented as part of the 2003 Society of Women Engineers (SWE) conference.

Students, faculty, and alumni from the UAB School of Engineering presented the program, the purpose of which was to increase girls’ awareness of women in technology and introduce them to the wide range of career choices in engineering while earning a Girl Scout patch or badge.

Les Kearley was selected the Alabama Society of Professional Engineers Student Engineer of the Year for 2003. Kearley, a Montgomery native, is a graduate of the Civil Engineering program, and is currently completing the CEE graduate program. Kearley lives in Andalusia, Alabama, where he works for CDG Engineering.
The UAB School of Engineering has a message for potential students and for employers looking to hire engineering alumni: This ain’t your grandfather’s engineering program.

Linda Lucas, Ph.D., has served as dean of the 33-year-old school for three years, and in that time she says she has witnessed an increase in the range of job opportunities available to graduates of the school because of the multifaceted education they receive. “This program is far more varied than people think—than what high school students, for example, think about engineering degrees,” Lucas says.

The school enrolls approximately 850 students in both its undergraduate and graduate programs and employs about 65 faculty members. It is the only engineering school in the state that has both undergraduate and graduate degrees in biomedical engineering, Lucas says. And its Environmental Health Engineering Program is one of just a few in the country—a unique partnership between UAB’s Schools of Engineering and Public Health, with additional classes in the School of Natural Sciences and Mathematics.

Locally, many UAB engineering graduates head for high-level positions at companies such as U.S. Steel, Vulcan Materials Company, and Alabama Power Company, where alumna Penny Manuel is director of Human Resources for Southern Company Generation and Energy Marketing. Manuel is also regional CIO for Southern Nuclear and Southern Company Services-Alabama. Alumnus Frank Pausic serves as vice president and works manager of American Cast Iron Pipe Company’s corporate facility.

“Construction and industrial work are major businesses in the Birmingham area, and those are some of the businesses where one would expect to find our graduates,” says Lucas. “But we also have students who graduate and go into the newer biotech and biomedical fields, in addition to those who have started their own businesses.”

Examples abound from within a few blocks of the UAB campus to New England and the West Coast. For instance, Martha Bidez, Ph.D., a graduate of the biomedical engineering program, helped start a Birmingham-based company called Biohorizons Implant Systems, which designs and manufactures dental implants that are sold worldwide; and graduate Nakela Cook, M.D., Ph.D., went on to earn a medical degree at Harvard Medical School and now works as a physician at Massachusetts General Hospital in Boston.

The School of Engineering recently created a certification program in construction in the Department of Civil Engineering. Plans are also in the works to develop a certificate in business for engineering undergraduate students in conjunction with the School of Business.

Lucas sees the variety of possibilities for graduates daily. “On any given day I can go into a lab and see students designing new types of concrete for bridges or looking at how blood flows through a small vessel in the body,” she says. “All these applications make for well-trained graduates who leave here ready to tackle almost anything they can dream up.”

Alumni Watch: A Commanding Presence

The rising visibility of SOE alumni

Imagine a bandage that creates its own battery-powered electrical current, which pulses painlessly through a wound and stimulates the cells to heal.

UAB School of Engineering alumnus Rafael Andino dreamed up just such a product after conducting research on electrical fields and wound healing while earning a master’s degree in the Department of Biomedical Engineering.

“And I’ve always been interested in using engineering principles to help the body help itself,” says
Seizing the Opportunity
TO BUILD ON A REMARKABLE ACCOMPLISHMENT

The Campaign for UAB ended officially on December 31, 2003 as the most successful comprehensive campaign in the history of the state of Alabama. For the UAB School of Engineering, this campaign was truly a remarkable achievement. Our final campaign total was almost 143 percent of our revised goal, and was more than twice the original goal.

During the campaign we added close to $2.3 million to the School of Engineering’s endowment; we obtained almost $1 million in new equipment; and we raised more than $111 million to enhance our instructional programs, purchase new technologies, develop new programs and initiatives, support faculty research, and support scholarships and fellowships for our students. However, one of our most important accomplishments may be the number of friends, partners, and alumni who chose to support the UAB School of Engineering in its quest to achieve regional, national, and international prominence through an unrelenting dedication to excellence in all of our endeavors. We thank each and every individual, corporation, and foundation who supported our campaign efforts. (An honor roll of donors to the campaign will appear in the upcoming edition of the university-wide campaign newsletter.)

The Campaign for UAB and the new resources it has developed for engineering has been tremendously important in moving the School of Engineering forward. But we must view this as one step (albeit a giant one) in the pursuit of our ultimate goal of all-round excellence. We have plans for: expansion of our programs in high speed computing and simulation; working with Medicine, Dentistry, and Surgery in tissue engineering and regeneration; creating a center for engineering research and applications where we can continue to develop our expertise in casting, composites, structures, and environmental engineering; and increasing the all-important financial support that we provide to our students through scholarships and fellowships. This means that we must maintain the momentum we have created together. We must maintain the relationships that we have established, and we must reach out to new friends and partners who can help us to become the best engineering school we can be—a center for cutting-edge research and a “first choice” for engineering education.

There will be more information on our new plans and initiatives in future issues of Ingenuity.

Paul George, left, and Bo Mundy of Integrated Medical Systems present Dean Linda Lucas with an unrestricted gift to support the most pressing needs of the school.

Andino. “After I graduated and worked in the medical-device business for a dozen years, I realized there’s a need for something like this.”

So after returning home from a full day’s work as research director for Novartis, a Swiss pharmaceutical company, Andino sits down to work for the company he started in Atlanta in 2000—Biofisica. Biofisica is an Atlanta-based tissue engineering and medical-device company developing what Andino calls “cost-effective solutions” for people who suffer from chronic tissue wounds. More than 50 people—including a team of researchers at UAB—are collaborating to design the unique hydragel bandage with a wireless electrical current.

“The current stimulates cells in and around the wounded area to heal it,” Andino says. “It’s something that occurs naturally in the body anyway. We’re taking that knowledge and enhancing the current to speed up the healing or to create the current in wounds where it should be occurring but isn’t.”

The current starts when the bandage hits the skin, closing the circuit. That circuit is the size of a thumbnail and is powered by a watch battery. The bandage works for two to three days and is disposable.

“The idea is that they get the stimulation 24 hours a day,” Andino says. “There’s nothing else on the market that uses electrical stimulation to heal the wounds.”

Andino credits his education in biomedical engineering for giving him the background he needed to dream up this product, which in October received a United States patent.

“I needed to have a solid background in both medicine and bioengineering to do what I’m doing, and UAB gave me that,” he says. “It’d be impossible to do what I’m doing now without what I learned from UAB.”
The School of Engineering welcomed five new members to the Engineering Foundation Council in 2003. All five have led distinguished careers in various fields and represent some of the most respected engineering companies in the Birmingham area.

The new members are as follows:

- Elisabeth Hyde, P.E., Hyde Engineering
- James G. Joyce, P.E., Christy/Cobb, Consulting Engineers
- Joe Meads, P.E., Sain Associates, Inc.
- Carnetta Nabors Davis, P.E., BE&K Engineering Co.
- Curtis V. Palmer, TechBirmingham

Boyken International, Inc. has transferred and promoted Steven S. Haglund, CCE (’91), to chief estimator of the construction-consulting firm’s Orlando office. He has served as senior cost manager in the firm’s Atlanta office since 2001.

In his new role, Haglund will lead Boyken International’s Orlando estimating team with responsibility for scheduling department resources, forecasting demand and balancing workload with other offices. Other duties include training, developing proposals, and building client relationships with emphasis on resorts, theme parks, and education projects.

His resort and theme park experience include Atlantis III in the Bahamas; Houston Renaissance Hotel; Eco Lodge and Center in Suwannee, Georgia; and Hard Rock Park in Myrtle Beach, South Carolina. In addition, Haglund’s education projects include UAB, North Georgia College and State University, Macon State College, Georgia College and State University, the State University of West Georgia, and Emory University in Atlanta.

Haglund earned his Master of Business Administration from Georgia’s Kennesaw State University in 2003 and Bachelor of Science in Mechanical Engineering from UAB in 1991. He also trained in avionics instrument systems at Chanute Air Force Base in Illinois during the early 1980s.