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Breakout
Georgia Tech is moving across the freeway at Fifth Street, expanding its campus with a $148 million thrust into Midtown's technology corridor.
By Hoyt Coffee

Olympic Legacy
Jim Richards has taken Foxhall Farm and engineered it into the Foxhall Cup, one of the top three equestrian competitions in America. In the process, he has brought to Atlanta a true Olympic legacy.
By John Dunn

Dream a Little Dream
Georgia Tech-trained architect Tom Lewis helped Disney visualize and build an old-fashioned town of the future.
By Maria M. Lameiras

Gorillas Endangered
Tech researchers, working with international organizations, are using advanced technologies to help save endangered mountain gorillas in Africa.
By John Toon
Film Finesses
Space walkers. Futuristic cities. A massive prehistoric monster. Compositor Charles Meredith uses technology to bring realistic fantasy to the big screen.
By Maria M. Lameiras

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Restful Outlook

Cover: In the cross-country competition, horse and rider clear a hurdle toward the equestrian national championships at Foxhall, a course built by alumnus Jim Richards. See page 40. —Gary Meek Photo
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THE RITZ-CARLTON
ATLANTA
(DOWNTOWN)
Let’s Have Full Story

In “Viewpoint,” (Spring 2000 Alumni Magazine), Executive Director Joe Irwin emphasized the Alumni Association’s vision statement is “Building Your Lifelong Connection to Georgia Tech.”

It would seem appropriate that Tech’s largest group of boosters should be given a full story on the current instructional programs. Most of us are asked what an entering student might expect if they chose to attend Tech. Trying to respond based upon our own “ancient” experience is not very helpful to the prospect. A rundown on the programs, subjects required, hours required, costs, etc., would be very helpful.

Under the heading of continuing education, the Association might have a way to increase income while being a real service to alumni. Establishing a Blockbuster-type rental library of taped classroom courses might serve a dual function.

That approach shows that rental, rather than selling videos is the answer, Coupling this with receiving credit toward the state requirement for credit in continuing education would be helpful.

Albert W. Hainlin, ME 47
Atlanta

We'll have a profile of Georgia Tech's freshman class and some of the most popular majors, instructional programs and costs in the fall edition of Tech Topics, which will be distributed in mid-August. While your suggestion about marketing rental tapes of classroom lectures could be a sleeper, it certainly opened our eyes. Right now, Georgia Tech's Department of Distance Learning, Continuing Education and Outreach offers non-credit professional development programs and courses leading to graduate degrees that use video tapes of classroom lectures and video streaming online; see www.conted.gatech.edu.

SNS Research

Neutrons are the building blocks of the universe and the chemical elements; they are the most powerful and penetrating form of ionizing radiation; they are the life force of the nuclear fission process, our most abundant and least polluting energy source.

With the loss of the Georgia Tech Nuclear Research Reactor, the Department of Energy’s Spallation Neutron Source (SNS) at Oak Ridge, Tenn., will provide an opportunity for Georgia Tech scientists to continue research into an important area of nuclear science. (“Scattering Neutrons, Advancing Science,” Georgia Tech Alumni Magazine, Spring 2000).

However, the statement that the SNS doesn’t present the environmental concerns inherent in a reactor-based source is misleading. Reactors produce their own energy, while spallators require an outside energy source—most likely a coal-fired power plant. The adverse impact on the biosphere—that part of the environment important to life—is much greater from a coal-fired plant than from a nuclear plant.

Also, walking a few blocks to do research has an environmental advantage over a four-hour automobile drive in an area that A Month of Milestones

The past month at Georgia Tech was filled to the brim with excitement. I alluded to graduation in my last column—we have a batch of freshly minted alumni, Class of 2000, joining our ranks now. It feels kind of odd saying “the class of 00 or 01” but we’ll get used to it. More than 1,500 new alumni are now headed for the future—armed with an “I got out” mentality and never-quit attitude.

Anyway that wasn’t all.

The Georgia Tech golf team finished a great season with the No. 1 ranking in MasterCard Collegiate Golf Rankings. The baseball Jackets put together another 50-win season, the Atlantic Coast Conference season championship and the ACC Tournament Championship.

And that’s not all.

President Wayne Clough announced the construction of the Fifth Street Project—which you’ll read about on pages 18 to 24. The Fifth Street Project will be a new jewel in the crown for Tech. Why? Because it’s strategic, it’s timely and it’s right. We need to invest in the DuPree College of Management and Executive Education and Continuing Ed.

As an alumnus, I constantly get promotional materials from the ExecEd programs at Michigan, Harvard, Northwestern and UCLA. I constantly hear that Tech is “just an engineering school.” The reality is that many of us are engineers by trade and managers by profession. The Fifth Street Project is a deliberate evolution that will pay dividends for us as alumni far into the future.

And that’s exciting.

Joseph P. Irwin
Executive Director
Georgia Tech Alumni Association
Clinton Bastin, ChE 50
Atlanta
Clinton Bastin managed university nuclear research programs for the Department of Energy Office of Nuclear Energy, Science and Technology. The Spallation Neutron Source would get its energy from a coal-fired power plant and is not completely environmentally benign. However, researchers say the experiments conducted at SNS could not have been done on Georgia Tech's reactor. It should be understood that the closing of the campus reactor and the construction of the SNS are not coupled in any way. In the area of neutron scattering, scientists say the SNS will be vastly superior to Tech's reactor.
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Twin Trophies

Tech baseball team wins ACC championship, tournament

It took a one-run homer and two more RBIs from Junior Jason Basil to give Georgia Tech an 8-4 Atlantic Coast Conference Tournament win over Clemson, and to give the Yellow Jackets both the 2000 regular-season and tournament titles.

The victory gave the Yellow Jackets (47-14) their fifth ACC Championship, but their first since winning four consecutive titles from 1985 through 1988. Tech swept the 2000 ACC Tournament with a perfect 5-0 record. The win marked the 300th victory for head coach Danny Hall at Georgia Tech.

"It is a great accomplishment to win the regular season championship and the tournament," Hall said. "Everybody stepped up and we could not have played any better. I knew that it was going to be a dog fight because Clemson has a great team. I'm very proud of our guys, because they hung in there and found a way to get it done."

Basil was named the tournament's most valuable player, and he was joined on the all-Tournament team by catcher Bryan Prince, outfielder Brad Stockton and pitcher Cory Vance.

The Jackets followed the ACC win by advancing to the super-regionals of the NCAA Tournament. They defeated Georgia Southern and Stetson University to get to the super-regionals, both weekends played at Russ Chandler Stadium.

But they fell in two games to the University of Southern California to end the season on the tournament's third weekend. GT

Kudos

Baseball's Hall, Teixeira voted ACC, national honors

The Atlantic Coast Conference named Georgia Tech's Danny Hall Coach of the Year and Yellow Jacket third baseman Mark Teixeira Player of the Year.

Teixeira was also named the 2000 College Baseball National Player of the Year and first-team all-American by The Sporting News, which also tabbed teammate Richard Lewis, Georgia Tech's second baseman and leadoff hitter, to the second-team all-America squad. Teixeira and Lewis also made the all-American team voted on by baseball writers, and Teixeira made the GTE Academic all-America Team.

A sophomore, Teixeira led the ACC in batting average (.420), home runs (16), runs scored (100), slugging percentage (.767) and on-base percentage (.546). Teixiera, who also ranked second in the conference with 73 RBI, was named ACC Player of the Week three times.

Voted by the league's nine coaches as the 1999 ACC Player of the Year, Teixeira becomes only the third player in ACC history to be named both the league's Rookie and Player of the Year.

All-conference twice in two years, the Severna Park, Md., native becomes Tech's fourth ACC Player of the Year and the first since 1993, when former Yellow Jacket Jason Varitek was named the league's top player. Varitek, now a member of the Boston Red Sox, was Player of the Year in 1994.

Hall was named ACC Coach of the Year for the second time, after being selected as the ACC's top coach in 1997. Hall guided the Yellow Jackets to a 47-14 mark heading into the NCAA championships.

Hall is in his seventh season as head coach and has led Georgia Tech to the NCAA Tournament in six of his seven seasons as head coach. GT
Double Ceremony
More than 1,500 students receive degrees at spring graduation

Georgia Tech graduated more than 1,500 students—the largest graduating class since World War II—in its 206th commencement.

The May 6 graduation exercises at Alexander Memorial Coliseum were organized in two ceremonies, a morning event for undergraduates and an afternoon event for advanced degrees.

There were 1,032 undergraduate degrees awarded, and 505 graduate degrees—430 master's and 75 doctoral—awarded. The 1,537 degrees awarded compared to 1,414 degrees given out during spring commencement last year.

Morning commencement speaker Alfred R. Berkeley III, president of the NASDAQ Stock Market; told graduating seniors they are entering a rush to stake a claim in cyberspace. Like the railroads of the 1880s, the Internet has changed everything, he said.

He challenged graduating seniors to speak out, be involved and keep working. He urged them to “get engaged in the effort to ensure that we continue to invest in research so that future generations will enjoy the same opportunities” as the current one.

Joseph Bordogna, deputy director and chief operating officer of the National Science Foundation, told students receiving graduate degrees they “will have particular capabilities to succeed. He said, “You will also have special responsibilities to help shape our world and to harness our technologies for the betterment of society.”

North Avenue Almanac

75 Years Ago
In September 1925, the Georgia Tech Alumni Association published its first Alumni Directory. The publication included about 3,300 alumni, beginning with the first two graduates: George G. Crawford, ME 1890, president of Tennessee Coal, Iron and Railroad in Birmingham, Ala.; and Henry L. Smith, ME 1890, president and treasurer of Smith Manufacturing Co. in Dalton, Ga.

50 Years Ago
When Tech President Blake Van Leer presented William Lloyd Carter with his degree in 1950, it made the cover of the Georgia Tech Alumnus, now the alumni magazine. Carter received the first doctoral degree awarded by Georgia Tech. Gen. Lucius D. Clay, former governor of the U.S. Zone in Germany and chairman of Continental Can Co., gave the commencement address to Tech's 1,650 graduates, assuring them that American foreign policy would win in Asia. The program, he said, would stop communist expansion in Asia and "peace and stability will become the order of the day."

25 Years Ago
The Georgia Tech Alumnus, which ended publication in mid-1973 as an economic move, made its return in the fall of 1975 as the Georgia Tech Alumni Magazine, featuring Bobby Dodd on the cover. The name change readily identifies its audience as both men and women graduates.
Home, Wired Home
It'll be the place you want to come home to

Good Morning, America broadcast live May 11 from Georgia Tech's computerized house in the know—the Broadband Institute Residential Laboratory. Michael A. Guillem, science editor for the show, gave viewers an inside look at the technology and computer applications that make this house wired for the future.

The house is programmed to identify its occupants and distinguish them from strangers, locate lost items such as misplaced car keys, and detect potential crises and automatically call for emergency help.

The three-story, 5,040-square-foot house is a residential laboratory that includes two independent bedroom living areas. While researchers work out of the laboratory side of the house, the other section functions as an "Aware Home"—a College of Computing project that will host actual residents, initially students and, eventually, an elderly person or family.

“One of our goals is to discover technology combinations that can unobtrusively enhance lifestyle in the home of the future—both for special classes of inhabitants, such as older citizens and infants, and for families in general," says Dr. Nikil Jayant, Broadband Institute director and professor of electrical and computer engineering.

“The current technology has people telling computers what to do,” says Chris Atkeson, associate professor of computing. “The next generation of technology will have computers understanding what people are doing and what they want.”

Digital Family Portraits, created by Dr. Beth Mynatt, assistant professor of computing, help family members monitor their senior relatives' routines and activities, both daily and over time. Icons around the photograph can give relatives a sense of the senior adult's health, relationships and activities.
**Sized Up**

Tech is partner in computer study
to determine the shape of things to come

Men and women from 18 to 65 visited the Tech campus this summer to make a difference in the way things fit. They participated in a comprehensive-human-body measurement study for industry, the first such study since 1962.

Automobile interiors, chairs, clothing and hundreds of other products are designed on 40-year-old data. The design of products for the 21st century will be based on the data that was collected.

The study, called CAESAR (Civilian American and European Surface Anthropometry Resource), is an international examination of body dimensions using digital scanning techniques to create a three-dimensional computer simulation of each study participant.

CAESAR has more than 20 commercial partners, including Levi's, General Motors, Ford and Boeing, who will use the data to improve hundreds of goods and services from blue jeans to T-shirts to automobiles to jet aircraft—anything a person might wear or use.

Georgia Tech is the only institution of higher education in the CAESAR partnership. "Tech's depth of resources will substantially enhance the project and the database is of critical importance to numerous Tech programs and projects," says Joseph Koncelik of Tech's Center for Rehabilitation Technology.

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**Ultimate Pig-Out**

J. W. Dees enjoys eating high off the hog in his retirement

By Karen Hill

Two years ago, J.W. Dees put down the pen he used to sign research contracts for Georgia Tech and picked up a fork.

Dees retired in 1998 as Tech's associate vice president for research and director of the Contract Administration office. Since then, his hobby of judging barbecue contests has nearly turned into a second career.

"It's awfully hard work, but somebody's got to do it," Dees says, laughing.

Still, it's serious business to a growing number of contest aficionados across the country. Dees is certified by two sanctioning bodies, the Kansas City Barbecue Society and the Memphis in May International Festival Inc. Certification comes through attending classes on the cooking and judging process and judging a number of contests.

Dees, who used to barbecue a whole hog each year for colleagues at Tech, became intrigued by barbecue contests about 15 years ago. He was driving home from Florida when he stopped in Vienna, Ga., after seeing signs advertising that small town's "Big Pig Jig." The next year, he was invited back as a judge.

Nationwide, there are at least 450 barbecue contests each year, says Carlene Phelps, editor of the National Barbecue News, a newspaper headquartered in Douglas, Ga.

Nationwide, the number of barbecue cookoffs is growing, and in the South, the home of barbecue, "10 years ago, there would be one or two a year," Dees says. "Now there are one or two a weekend."

Most of the contestants are amateurs, people who simply prefer a pair of tongs to a golf club or tennis racket, Dees says. Often, they compete as a team with family members or co-workers.

As the contests have grown more popular, so has the need for judges with a particular pork palate who can pick the best brisket out of 100.

"In the old days, they'd get everybody—politicians and whoever else—to judge. I've heard horror stories about judges coming in and
saying they didn’t even like pork,” Dees says. “But now, teams put in so much money, time and effort that they almost all insist on certified judges.”

Dees grew up in North Carolina, where the barbecue de rigueur is pork in a vinegar sauce. That’s still his favorite, he says, but he appreciates pork, beef and chicken in the tomato-based sauces of Georgia, the mustard-based concoctions of South Carolina and the herb-and-spice rubs of Texas.

Primarily, he concentrates on the meat, anyway: its tenderness, flavor and appearance. In contests sponsored by the Kansas City Barbecue Society, the meat is simply set before Dees and other judges in a “blind” taste test—they never see where or how it’s cooked, or who cooked it.

Memphis in May-sponsored events, however, include judging appearance of the cooking area, the cooks and the cooking method.

Dees usually asks the cooks how much smoke they used, if they used indirect or direct heat, if they basted or injected the meat with juices, if they used seasoned or green wood, and if they turned the meat during cooking.

With Dees’ help, Larry Haynie of Atlanta went from amateur to a state championship in three years. He now holds state titles in Tennessee and South Carolina, and he has won twice in Georgia.

Haynie entered a contest in Stone Mountain almost a decade ago at the urging of a friend. “We did everything wrong, but still finished seventh,” Haynie recalls. “We had the best hog, but nothing to go with it. Just the hog sitting on a table, no napkins, no sauce.”

Soon after, Haynie read an article Dees wrote for The National Barbecue News, about what judges look for in a contest entry. Haynie tracked Dees to his Tech office and offered to buy him lunch. Five hours and four legal pads of notes later, Haynie left.

“The next time, we did 90 percent of the stuff right,” says Haynie. “I credit J.W. with putting us on the right track.”

Karen Hill is an Atlanta freelance writer.
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Roll Outs
Face-to-face events bring Tech leaders, alumni together; concludes with spirited international finale

By John Dunn

After crisscrossing the country and leap-frogging the ocean, Georgia Tech wrapped up its nearly two-year Roll Out effort in support of the $600 million campaign with enthusiastic international turnouts in London and Paris.

"The Roll Outs have given a face to the campaign," said Barrett Carson, vice president for Development and architect of the plan that brought Tech leaders and grassroots alumni together.

"The concept was to literally take the Campaign for Georgia Tech to our primary constituency—our alumni," Carson says. "We made a determined effort to spread the word far and wide."

During the 21 months between kickoff in Savannah on Aug. 18, 1998, and the finale in Paris on May 16, 41 Roll Outs were organized to meet wherever there was a concentration of Georgia Tech alumni.

"The Roll Outs were to explain the purpose of the campaign," says Jeff Colburn, director of business development for the Alumni Association.

The meetings provided a forum for alumni to meet with such Tech leaders as President Wayne Clough, Provost Mike Thomas and Dean of Engineering Jean-Lou Chameau, and learn first-hand about the $600 million capital campaign.

"The Roll Out is an effort to let everybody share in the excitement," Clough said at the Savannah kickoff. "We want all alumni involved. Everybody should understand what the campaign is doing for us now, and what it will do for us in the future."

Tech's 60 clubs nationwide played a strategic role in the campaign, because they have the organization, infrastructure and membership to reach the majority of Tech's 80,000 alumni.

In turn, the Roll Outs helped rejuvenate some clubs and provided an impetus to start new ones. In Paris, for example, alumni planned the first such Tech club in France. New clubs were started in Boston and San Diego and the Birmingham, Ala., club reorganized.

"Roll Outs have been a very important part of the campaign," Carson says. "They have strengthened the alumni club infrastructure. We now have excited groups and re-involved alumni around the world."

The international thrust also had strong support in London and Mexico City. Alumni abroad understand the campaign and its objectives, Carson says.

"We had very good turnouts. They understand the concept of philanthropy," Carson says. "Many asked, 'How can I participate?'"

Carson, who attended all but two of the Roll Outs, says although they all followed the same basic format, each was distinct. Locations and venues and the enthusiasm of the people "kept it fresh," he says. "Each one was a memorable occasion."

The Roll Outs also provided alumni with a forum, Carson adds.

"The issues that we heard in Savannah about Georgia Tech were different from those that we heard in Paris, and from those we heard in Northern California," Carson says. "It helps us institutionally to understand the perspectives of Tech are as varied as the locations we visited."

"We were able to organize a Roll Out within two hours distance of 90 percent of all our alumni," Colburn says. "Alumni may not have been able to attend an event, but all alumni were invited. Our goal was to get the word out to everyone."

The Roll Outs have helped explain the need for a capital campaign to vault Georgia Tech to the level of "blue chip" universities. The campaign, which ends Dec. 31, has involved thousands of alumni, many of them in leadership roles.

"The Roll Outs were wonderful learning events," says Clough, who attended 35 of the 41 meetings. "I enjoyed each and every one. I met so many of our alumni who are excited about the future of the Institute.

"The amazing thing about the Roll Outs is that they seemed to build on each other. The enthusiasm and momentum was infectious and seemed to grow with time, and this was exciting."
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We are here.
An architect's rendering of what the old parking lot (below right) will look like when Tech completes the new DuPree College of Management complex.
A generation ago, progress was measured in miles of concrete as a web of new superhighways crept across the nation, bringing the promise of prosperity on rubber wheels. Atlanta expected much as two new thoroughfares combined in a wide rampart downtown. Ironically, it was the Connector that divided Atlanta, segregating Georgia Tech from the heart of the city whose growth it long shared. In time, the area of Midtown that once was Tech's backyard decayed into a dank haven for prostitutes, drugs and the homeless.

But that is changing in concert with Georgia Tech's emergence as a major high-tech magnet, and its determination to further blur the boundaries between campus and community.

“When I came back to Georgia Tech to become its president in 1994, there were some folks who thought we should build a wall around the campus to protect it from its surrounding neighborhoods,” President Wayne Clough says. “Instead, we decided that it would be more beneficial both for Georgia Tech and for our neighbors if we reached out and became partners in creating a vibrant community around our campus.”

At the apex of the new millennium, much of that vision has become reality. The area to the south—which Mayor Bill Campbell described as once "a wasteland" and a "frightening place"—has been renewed with Centennial Place, a mixed-income community of homes, a math and science magnet school and new YMCA. The North Avenue Research Area is already growing along the southwest and west, and a huge multi-use complex is replacing the old Atlantic Steel property, with upgrades to the Home Park neighborhood already past the drawing board.

And a thriving technology center has emerged in Midtown as high-tech companies vie for space near Georgia Tech to benefit from technology transfer—in which Tech leads the nation, according to the Southern Technology Council—and bright, well-prepared graduates.

“There is a transition going on in Georgia's economy from really an industrial and manufacturing economy to a high-tech economy,” says Georgia Gov. Roy Barnes. “Geor-
"Our city is growing by leaps and bounds and at the center of it is Georgia Tech. Tech has not only blurred the lines between campus and city, but has become an active partner in the city's advancement. This project will stamp Atlanta as a place of rare innovative progress."

—Atlanta Mayor Bill Campbell
Gia Tech is at ground zero of remaking that economy.”

Connecting campus to the growing technology corridor, perhaps Atlanta’s own Silicon Valley, Tech is building a $148 million expansion along Fifth Street to the recently renovated Biltmore Hotel. The multi-building complex, slated for completion in 2003, will include a new home for the DuPree College of Management, a Continuing and Executive Education center, a hotel and conference center, a new University Bookstore, parking deck, and retail and commercial space.

Designed to be “pedestrian-friendly,” the complex features wide promenades, and negotiations are under way with the federal Transportation Department to widen the Fifth Street bridge across the connector to include wider sidewalks and greenspace to enhance that little-used back door to campus. Additionally, a trolley will run between Midtown and the main Tech campus every five minutes.

Development of the Midtown expansion represents the intersection of two comprehensive plans: Georgia Tech’s Campus Master Plan and the Midtown Alliance’s Blueprint Atlanta.

“The Midtown Alliance understands that Georgia Tech is the engine that will drive the development of a high-tech business community in Midtown,” says Clough, CE 64, MS CE 65. “Georgia Tech understands the importance of quality housing, retail, restaurants and cultural amenities to our effort to attract top-notch faculty, staff and students. We both know that if we cooperate, we have the potential to make Midtown a dynamic live-learn-work-play community that will become a model for other cities.”

During a June event to announce the project, Midtown Alliance President Susan Medenheim noted that the area had added some 15,000 workers since 1995 and up to 9,000 residents. The Biltmore Hotel has been renovated into a technology haven for business, with an updated condominium complex on grounds. And as many as 5,000 new condominiums and lofts are in the planning stage.

“Bringing those types of developments is an exclamation point to an already strong statement in Midtown,” says Charles R. Brown, BC 62, the Technology Park veteran who is developing the Atlantic Steel property into $2 billion worth of office, retail and residential space.

In addition to the many technology start-ups locating in the developing corridor—bolstered by graduates of Tech’s Advanced Technology Development Center incubator—massive new facilities are under construction by BellSouth, Equifax, Turner Broadcasting and the Federal Reserve Bank.

“The increase in Midtown projects and development has tripled over the past year,” Medenheim adds. “One of the things we are interested in seeing happen is for all of these entities to come together under a common goal, a common purpose, the purpose being to improve the quality of life for those who live and work here. Georgia Tech is helping to meet that goal.”

For Georgia Tech the expansion was not only inevitable, but part of a plan that took many years to come to fruition. For instance, the decision to purchase the derelict land across the interstate was finalized in 1995.

“Some people were not up on Tech acquiring this property, but there were a few of us who made sure it happened,” says Alvin Ferst, IM 43, a former member of the Georgia Tech Foundation. “It’s great to see us moving across the expressway. Tech has been crammed in over there for so long. This project is going to be a great opportunity for students as well as for the industries around here.”

The foundation, a nonprofit which handles contributions and investments for the Institute, bought the roughly eight acres for $11.9 million in 1997.

The locus of the Tech expansion, and perhaps the most essential element, is the $35 million, 181,000-square-foot management complex at the corner of West Peachtree and Fifth streets. The complex is the new home of the DuPree College of Management, which, with 1,300 undergraduate students already, is pacing the area’s growth and needs to be more accessible. And more growth is likely as the college continues to climb in annual rankings of business schools, staying in the top 15 percent in recent years.

“Technology is pervading the business environment, and the DuPree College is positioned for leadership in the man-
“Atlanta is experiencing a phenomenal increase in the number of businesses and people who want to locate downtown.”

—Midtown Alliance President Susan Medenheim
agement of technology,” Clough says. “Within the past few years the college has opened the DuPree Center for Entrepreneurship and New Venture Development, and the iXL Center for Electronic Commerce. The research and educational activities of both of these centers relate directly to the high-tech start-up businesses that are moving to the Biltmore and other nearby buildings. And this location will strengthen that relationship.”

Recognizing the growing importance of technology-oriented management programs, Tech elevated the management program from a school in the Ivan Allen College back to a full college in 1998.

“Being neighbors to the new high-tech development in Midtown is a natural for the DuPree College of Management,” says Dean Terry Blum. “The college develops business leaders for changing technological environments by focusing on management of technology, entrepreneurship and innovation, and e-business for a global economy. Our new location will help us meet these high expectations. Students will attend classes in the proximity of the companies we want to help create value and develop jobs, which will only enhance the vibrancy of our intellectual environment and the Midtown space we will share.”

The College of Management building will also house the Center for Quality Growth and Regional Development. This interdisciplinary research center uses Atlanta as a living laboratory to study issues and problems related to urban growth, and Atlanta is a likely candidate as poster child for the choking pollution and suburban sprawl at the heart of today’s problems.

The complex also houses new facilities for Executive Education. Combined with the 136,000-square-foot Continuing Education Center and Economic Development Institute, these facilities provide an essential link to business and technology developments for today’s engineers, whose education becomes obsolete about every five years, says Sam Williams, EE 68, president of the Metro Atlanta Chamber of Commerce.

“Our continuing-education programs have grown by

“This not only feeds what is going on in Atlanta and Midtown, it ties it all together, from the Atlantic Steel project to the downtown development. Activity begets activity. This is a step in a journey that started a long time back and still has a long way to go, but it is a big step, a beautiful step.”

—John Aderhold, EE 45, IE 67, who has been instrumental in the World Congress Center and Georgia Dome
nearly 300 percent over the past two decades," Clough says. "Our present continuing-education space on campus is not only stretched beyond its capacity, but it is also located in the interior part of campus, which makes it hard to find and even harder to park once you finally get there. The new facility here on 5th Street will solve these problems, and it will provide facilities that are designed to deliver and receive distance learning programming from across the nation and around the world." In executive education, Tech is beginning to offer unique educational opportunities, such as the executive master's in management of technology, which are badly in need of growing space.

Since many of these programs last two days or more, lodging space becomes essential. In response, the expansion includes a 250-room, 210,000-square-foot Hotel and Executive Conference Center, which will also allow Tech to do a better job of hosting major conferences. It will also be available for use by corporate neighbors.

Parking for the complex will be available in a 1,700-space deck to be built to the rear of the major components.

"The final piece of this new wing of our campus will be restaurants and light retail, including the Georgia Tech Bookstore. These shops and restaurants are intended to serve those who live and work in Midtown as well as the faculty, staff, and students of our own programs. Our goal is to create an attractive, pedestrian-friendly area that interacts with its surroundings and contributes to Midtown as well as to Georgia Tech," Clough says.

The bookstore will occupy about 50,000 square feet, with other retail space totalling 20,000 square feet.

The entire project is being funded by gifts and bonds backed by program revenue. The gifts began rolling in the same day the expansion was announced. Charles Brady, IM 57, chairman and CEO of Amvesco, signed on for $5 million toward the management college, and Joe Taylor, IM 56, promised Clough another million after the announcement.

While nothing has been settled yet, there are plans to develop the other side of Fifth Street across from the expansion for more high-tech office space, according to Bob Harty, director of Institute Communications and Public Affairs at Tech. GT

"It is great to see us moving across the expressway. Tech has been crammed in over there for so long. This project is going to be a great opportunity for students as well as for the industries around here. For some of us who have been out of school for a few years, we've really seen things happen around here and it's been fun to be a part of it."

—Alvin Ferst, IM 43
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Dream a Little
A Tech architect helps Disney build an old-fashioned town of the future

By Maria M. Lameiras

Photography by Laura Sikes
Tom Lewis lives in a dream. The dream is Celebration, Fla., the traditional community Disney built on 5,000 acres on the far southern end of Walt Disney World property. It is a dream in which Lewis has been wide awake since its inception and on through to the last detail—right down to the cocoa-brown Victorian farm house with the wide front porch he and his wife, Cynthia, built in the town.

And it’s a dream he has lived for more than a dozen years since signing on for his “fourth career”—originally as director of residential development for Disney Development Co.

It began while Peter Rummell was head of Disney Development. Lewis, BS 61, Arch 61, M Arch 66, remembers the late-night conversations with Rummell that led him to join Disney. “Peter was in Paris working on EuroDisney—now Disneyland Paris—and he said, ‘You have a chance to be a part of the most significant planning and development work that’s ever been done.’ I had no idea what he meant,” Lewis says.

It was 1987, 15 years after Walt Disney World opened, and at the time Disney was evaluating its property holdings in Orlando, Fla., to determine how much land and infrastructure was needed to finish the build-out of the Walt Disney World resorts. Lewis says Rummell believed there would be some land left over, and the potential was there to use it in a community-development project.

“Once they saw they had the land, step two was to decide what to do with it. The first option was to hold it, but in Florida, you don’t hold land because it will be harder to develop tomorrow than it is today,” Lewis says. “The second option was to sell it, but they realized by the time they put enough restrictions on it for use, it was devalued. The third option was to develop.”

With Rummell’s idea, Lewis and Rummell began to fashion the concept of a multi-use planned community.

“We started with a competition of four firms: DPZ, the firm of Andres Duany and his wife, Elizabeth Flyer-Zybert, who were the master planners for Seaside, Fla., and who were considered at the forefront of traditional town planning; Robert A.M. Stern; Gwathmey-Siegel; and Edward D. Stone Associates. We gave them the information on the land area and said ‘Give us your ideas,’” Lewis says.

Three of the four—DPZ, Stern and Gwathmey-Siegel—each came back with different approaches to traditional community development that encompassed the five cornerstones on which Disney wanted to found the community: health, education, technology, community and a sense of place.

“We were drawn to that concept, and we liked parts of everything they did. We decided we’d pursue traditional town planning and then, typical of the Disney way, we locked them in a room and said ‘Work together and incorporate the best elements of the three plans,’” Lewis says, adding that the concept of combining the designs of three preeminent firms was unheard of. “It was one of the most enlightening and wonderful experiences I’ve ever had. Those three great architecture and design firms are fierce competitors, and getting them together was the biggest challenge.”

Throughout the 1987 Christmas holidays, the firms worked to create a consensus plan that combined all of the details Disney liked best.

“That is the heart of the plan we’ve built here today,” Lewis says.

After making adjustments to contend with the planned Orlando Beltway, which was to run adjacent to the land, and eliminating concepts such as building a college in the community, the plan was given to David Childs and Marilyn Taylor of SOM (Skidmore, Owens & Merrill) and Jacque Robertson of Cooper-Robertson, who was dean of the School of Architecture at the University of Virginia, for refinement.

That plan was completed in December 1989, and Lewis and Rummell were ready to do the pro forma for the community so Disney’s management could decide if the project would be built.

“We took the SOM-Robertson plan and gave it to Robert A.M. Stern and Jacque Robertson and they became the master planners for the town of Celebration,” Lewis says, adding that many of the principles of the original plan figured into what now stands in Celebration, as well as the collective memories of the team working on the project.

“Everyone brought something out of their memory bank from where they lived as a child or where their grandparents lived. My wife and I grew up in Griffin, Ga., and we walked everywhere. There were sidewalks; we rode bikes. It was a pedestrian environment more than a car environment, and we wanted the same thing. Here we provide for cars, but we make the pedestrian aspect the focal point.”

After all the master planning, business planning and market research was done and the sense was that the community would become a reality, the team spent five days traversing the East Coast to communities they wished to emulate, including Columbia and Kentlands, Md.; Reston, Va.; Charleston and Beaufort, S.C.; Savannah, Ga.; and Coral Gables and West Palm Beach, Fla.

“We walked those communities, took pictures and talked to people about what was bad and what was good about their towns. We looked at the relationship of the houses and buildings to the street and the details of that went into traditional town plans and traditional houses,” Lewis says.
It was that trip, probably more than anything, that led us to the decision to do traditional architecture," Lewis concludes. Continuing their meticulous crafting of the concept, the team chose four primary architecture styles and two "spice" styles that would be allowed in the community, including Classical, Colonial Revival, Low Country/Coastal and Victorian, as well as Mediterranean and French Country. An additional style, Craftsman, has been added since the community opened to residents.

"The next challenge was how to codify the guidelines for designing and building the homes. We didn't want a code; it sounded too onerous, so we looked back in history and found that in the late 1800s and early 1900s, it was typical to find a pattern book for builders that had the basic elements of individual styles used in building the great neighborhoods. We selected Ray Gindroz of UDA in Pittsburgh and developed a pattern book for these styles," Lewis says.

The book provides guidelines on designing the homes within each style, providing history and major details of each style and giving examples of different ways to build them. When a new building or home is planned, the design must be approved before construction.

"We approve every building here, commercial or residential, and, all in all, I don't think it has been an onerous process," Lewis says.

By 1994, roads and utilities were laid, including a twisted-wire-based community network that provides local and Internet connectivity to all residents. Although it was considered cost prohibitive to use a fiber-optics system, the conduit for a fiber-optics system was put in place so groundwork for such a system would already be in place when the technology becomes affordable.

Continued on page 32
Trouble in Paradise
Disney's experimental hometown school has weathered its share of rough spots

When potential residents came to see Celebration and all it had to offer, they were as enamored by a cutting-edge school for their children as they were charmed by the combination of the best of technology with traditional values and architecture. Celebration School was planned as a pioneering educational facility that combined kindergarten through grade 12 in one campus, encompassed multiple ages in the classrooms, and put more emphasis on individual performance than on test scores.

The curriculum for the new school was a collaboration of the Osceola County School District and a consortium of education experts from around the United States, including Auburn University, Harvard University, Johns Hopkins University, Stetson University, the University of Central Florida and the University of Minnesota.

Tom Lewis, vice president of development for Disney and a guiding hand for the town, says the curriculum incorporated several "best practices" in education—including personalized learning paths, integrated learning, multiple intelligences, multi-age groups, cooperative learning and authentic assessment—into one technology-centered school.

"The challenges we had with the school stemmed from several factors. We had partners like Stetson, the state department of education and the local school district, and we were pushing the envelope," Lewis says. "We were doing something different, and as much as we explained it to the families coming in, as much as we disclosed about it and described what the school approach was, they couldn't understand it until they were in it."

Although most of the approaches being implemented had been tried elsewhere, no other school had incorporated all of them, a concept that overwhelmed some families once they became a part of the process.

"The high school kids were complaining that they didn't want to be in there with the little kids," Lewis says. Also, because the school population was relatively small—only about 1,000 in all 13 grades—college-bound high-schoolers wanted a wider variety of course offerings than the school could afford.

"The percentage of college-bound students we had was higher than is typically found in a school, and they wanted a broad variety of courses—several courses in chemistry and math and foreign languages. For public schools, you generate the public funds for a teacher and the supplies and even the classroom by the number of students who demand that course," Lewis says. "So if you have 1,000 kids in K-12 and the senior class is only about 30 and only a third of those want to take Latin or French or German, they don't generate enough full-time enrollment to fund a teacher. Our course offerings could not be as broad as smart, college-bound students desired."

Lewis points out that the most complaints about the school came from parents of students in the middle or upper grades, rather than the lower school, because the students and their parents compared the school to the schools they had come from, whereas the younger students adapted to the school because they had nothing to compare the experience to.

"In our thought process, we knew it was going to be a minimum of five years before we had enough experience in what we were doing to know how it was going to work, but it was tough to think that your children's education was part of an evolution that was going to take a few years to mature," Lewis says. "When your kids are kind of pioneering in a way, that also concerned parents."

Although the percentage of parents who became seriously disillusioned with the school was small, they were very vocal, Lewis says, and the town had to make changes to placate unhappy parents, while not disenfranchising those happy with the system.

"Some of the early changes were more patience from parents and an attempt to address their concerns by not giving up what we were doing, but by pulling it back a little," Lewis says. "The best way to do that was to give some of the ideas time, refine others, and even let a few fall by the wayside."

The biggest change in the school is being planned as a result of student numbers that far exceeded school district estimates.

"The county's estimates of students per household were very low compared to the number of students per household we were getting," Lewis says.

As a result, the current K-12 school is being expanded and next year, Celebration will break ground on a new regional high school that will encompass grades 8 through 12, slated to open for the 2002-2003 school year. The current K-12 school will then be converted to K-7.
The Celebration network provides a directory of all residents and allows such things as a connection to the school for parents to e-mail their kids' teachers and the Celebration Zone, a public forum where residents can talk about what's happening or to express their candid opinions about something they don't like.

Vertical construction began in February 1995, with downtown buildings and businesses going up first.

"When we moved the first residents in, our town center was basically done," Lewis says.

On November 18, 1995, homeowners participated in a Founder's Day drawing to see who would purchase the first lots in the community.

"We had drawn 500 lots in the first phase, and we had 5,000 people interested," Lewis says. "We basically sold out those lots that day and the first residents moved in during June of 1996."

Since its derivation, Celebration has received a tremendous amount of national and world media coverage, both lauding and vilifying the concept.

"An editorial in the Boston Globe said we were trying to 'spread pixie dust and create community.' But you can't create community," Lewis says.

"We laid the physical and programmatic framework, but the fabric of this community will be woven by those who live and work and play and visit here. The residents in this town are doing exactly what we wanted them to do. They are taking this town and making it their place."

For analysts who classify Celebration as a socially-engineered "Stepford" town—a reference to a motion picture about an artificially "perfect" small town—with stringent covenants on everything from yard foliage to window treatments, Lewis counters that the community's success contradicts the criticism about its genuineness.

"Our guidelines and controls are not much different than any other master-planned community, and our residents are drawn here by those because it protects their investment and gives everyone a sense of pride in the community," Lewis says. "This is a town that has challenges and problems, things that both visitors and residents can criticize and complain about. If it ended up [like the Stepford community], it wouldn't be real and we would have failed. We created a real place for real people."

Lewis and his wife have lived in the community since October 1997, and he says he has been amazed at the extent of the project's popularity.

"We knew this was going to be successful economically, but we didn't know how widespread interest in it would be," Lewis says. "I have been overwhelmed."

"I knew we were setting out to do the largest example of traditional town planning ever done, and I knew the Disney name was a draw—but I am overwhelmed at the media coverage we've had."

To ensure the community would be accessible to a range of economic levels, its residential development includes several classes of homes, including apartments, townhomes, cottage homes, village homes and estate homes. Although the lot widths vary from 90 feet for estate homes to 25 feet for townhomes, most of the homes are on lots 100 to 130 feet deep to accommodate an alley system that leaves garages and driveways out of sight and provides enhanced interaction with neighbors.

Homeowners were also encouraged to build garage apartments into their homes.

"Most people did it, and some have used them as a bonus room, but a large number have rented them out," Lewis says, adding that the garage apartment in his home is rented by Jessica Mitchell, 22, a dancer at the Magic Kingdom who is with the prestigious "Kids of the Kingdom" group that performs in front of Cinderella's Castle.

Due to the immense popularity of the area, however, prices began to climb out of reach for first-time buyers, Lewis says.

"When the prices on townhomes began to go so high on resale, we wanted to introduce affordable 25-by-50-foot lots that would appeal to first-time buyers," he says. So 50 lots were developed in the Lake Evalyn section of the town.
Over the past two years, Lewis has watched his role in Celebration change from executive in charge of planning and development to that of simply a resident as his professional responsibilities have turned more towards his expertise in transportation and land planning.

"For the first five years, I was the main person on it full-time to develop the master plan, design guidelines and early market strategy. For the next five years I was responsible for getting public approval of the entitlements and was a member of a three-person executive committee that oversaw 25 to 30 people as we went through the initial building and sales. Since 1998, I have been working more with the Walt Disney World Co., focusing on the build-out of the resort and theme parks," Lewis says.

"Now my role is trying to figure out our transportation needs, internally and externally, as we build out the resort. Because of my history with state government, I've been our lead executive in growth management and transportation, so even while Celebration was being done, I was negotiating agreements with the state on the southeast section of the Orlando Beltway," he says. "Once the initial phases of Celebration were basically done, we realized we needed to focus on the long-term build-out of Walt Disney World, and that year we established a team of executives to focus on the land-use and transportation build-out plan of Walt Disney World."

Lewis' job now is to help decide how Disney will approach its growing transportation needs. From 1972, when Walt Disney World opened, to 1987, the hospitality industry in Orlando grew from 6,500 rooms to 70,000, while the number of rooms at the resort itself only grew from 2,000 to 7,000.

The early-years activities of Disney Development Co., now part of Walt Disney Imagineering, changed all that; now there are more than 25,000 hotel rooms in the resorts and the number continues to grow, as does the need for efficient ways to move guests around in and between the parks.

"We try to provide the best, quickest transportation we can, and we need to decide what that is. Internally, do we need to expand the bus and monorail systems? Do we need more watercraft?"

"But also, externally, what do we need? We are monitoring what the state is doing with the idea of a high-speed rail system and how that would impact us," Lewis says. "My role now in Celebration is to live here and love it—and I do." GT

A Town Like Few Others ... Ever

- A variety of home sizes and prices including estate, village, cottage and townhouses, plus condominiums, apartments and garage apartments.
- Community-wide sidewalks leading through sections of the town, including parks, several playgrounds, lakes and walking trails.
- An alley system that puts garages and driveways out of sight behind homes in most areas of town and provides unique interaction with neighbors.
- A fully-functioning downtown with restaurants, cafes, bank, post office, library, shops, businesses and a 115-room hotel, with many of the buildings designed by famous architects, including Charles Moore, Phillip Johnson, Michael Graves, Cesar Pelli, Graham Gund, Robert Venturi and William Rawn.
- An 18-hole golf course.
- A built-in community network with future fiber-optics capability.
- Celebration Health, a self-contained hospital with a full range of medical services plus a fitness center, high-tech visitor's lounges with computer ports, a child-care center for patients' children and a cafe with both cafeteria and table service.
- Celebration School—kindergarten through 12th grade—in the town's center that encompasses progressive educational concepts and techniques and high-tech learning.
- Finally, the town is surrounded by 5,000 acres of conservation land that will never be developed.
Having been an integral part of the birth of Celebration has made a profound impression on Lewis. "As an architect, as a former bureaucrat, as anything, very few people get the chance to build a town from just pasture land and an idea in your mind," he says. "I'm very proud of it. God blessed me in giving me a role in helping do it."
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Connecting and staying connected is something Jim knows about. Since graduating in 1988, he has stayed connected to Tech in many different ways, including Roll Call. “I am grateful for what my Tech degree has done for me. Contributing to Roll Call is a great way to connect to Tech and give something back. It’s a connection that only gets stronger.”

Connecting with Georgia Tech through Roll Call began in 1947. Today, Roll Call funds are used to support a variety of areas at Georgia Tech, including student scholarships and financial aid, faculty recruitment and retention, and new academic programs. Each of these areas helps to strengthen the academic reputation of Georgia Tech. For alumni, that means an even more valuable Georgia Tech degree.

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Olympic Legacy

The Foxhall Cup brings the equestrian national championship competition to Atlanta

By John Dunn
Photography by Gary Meek
Jim Richards has taken Foxhall Farm and engineered it into the Foxhall Cup, one of the top three equestrian competitions in America. In the process, he has brought to Atlanta a true Olympic legacy.

Opposite Page: Rider Julie Black (left) with Jim and Janet Richards and their horse, Hyde Park Corner. Black will ride the bay English thoroughbred in the 2000 Olympic Games in Sydney, Australia.

House Doctor, a bay thoroughbred ridden by Olympic gold winner Phillip Dutton, is the first horse to gallop onto the softly rolling, lush green of the Foxhall Cup cross-country course.

From the grandstands, they seem to sweep across the pastoral landscape, clearing a distant hurdle in a race against the clock. Spectators watch in anticipation as horse and rider weave their way over the course, knowing they’ll soon encounter the water complex with its 8-foot drop strategically positioned for full view from the grandstands. The water complex is so close to the patrons’ tent, they feel the splashing spray as the horses run through the
shallows of a lake. It is a spectator’s paradise. From the stands, viewers thrill to more than a dozen jumps—more than any other cross-country course in the world—as horse and rider bound 28 obstacles along the 15 miles of twists and turns on this compact course.

Jim Richards has taken Foxhall Farm, his family horse farm southwest of Atlanta in Douglas County, and engineered it into the Foxhall Cup, one of the top three equestrian competitions in America. In the process, he has brought to Atlanta a true Olympic legacy.

A National Championship of Eventing at the three-star level of international equestrian competition, the Foxhall Cup’s debut in May also was the last qualifying event for the U.S. team for the 2000 Olympic Games in Sydney.

Richards, who graduated from Georgia Tech with an economics degree in 1981 and serves as Foxhall Cup chairman, gave the inaugural event an immediate and distinctive profile by offering a prize purse of $205,000—the largest in the world of sport “eventing.”

More than 90 international horse and jockey combinations contended for first place in the eventing competition—a triathlon that includes dressage, a display of technical skills derived from the sport’s military parade and review history; cross-country, a race through an obstacle course that challenges endurance and stamina; and show jumping, a test of courage, recovery and control.

A successful businessman, an avid horseman since boyhood—and, due to a polo accident, a forced spectator—Richards is uniquely qualified to transform the wooded Foxhall Farm into the Foxhall Cup, five manicured miles along the Chattahoochee River. He purchased the farm 10 years ago from the family’s nearly 4,000-acre estate, and made it a retreat for himself, his wife, Janet, and their three sons—Chase, 9; Nicholas, 8; and Phillip, 6. The flat floodplain is ideal footing for horses, and Richards created two polo fields out of the farm’s woodlands to pursue his passion for the sport—cut short by an accident in 1995.

Racing across a rain-slicked polo field at a full gallop, Richards was attacking the ball with a wooden mallet when his horse slipped and fell,
Richards readily acknowledges his mission is to develop the Foxhall Cup to the stature among equestrians that The Masters holds for golfers. The 25-year contract is necessary to operate the event as a big "sports model," he says.

slamming him to the ground. He was unconscious for 10 minutes, and he suffered from double vision for the next two weeks. Then the lower part of his body began going numb. The fall had caused an explosion in his lumbar spine and two discs blew out of joint, pinching a nerve.

Ten days after the accident, Richards underwent surgery to relieve the pain. Five years and three surgeries later, a portion of hip bone was fused into his spine and doctors have told him to give up horseback riding.

"I've had a taste of paralysis," Richards says. "It scares you."

It also changed his priorities.

At the request of the Atlanta Committee for the Olympic Games, Jim and Janet Richards were hosts to the American, Canadian, Swedish, German, Japanese, New Zealand and Italian equestrian teams competing in the 1996 Summer Games. While people can acclimate to heat and humidity within a few days, it takes horses about six weeks to adjust.

"On any given day, we had 10 or 12 teams here—120 Olympic riders and their horses," Richards says. "They were here for six weeks and we got to know them well. They loved the farm."

In the evenings, Jim and Janet Richards treated their guests to barbecue and recreational activities that included soccer, softball and waterskiing. And the Olympic riders raved about the wonderful footing of the river bottomland's sandy turf. "It is considered the best surface in the world for horses," Richards says. "This sort of land is really hard to find."
That led a number of guests to suggest that the Richards hold an event at Foxhall Farm.

When the three-star Rolex Three-Day Event in Lexington, Ky., was upgraded to the country's first four-star event in April 1997 by the American Horse Shows Association, U.S. Combined Training Association and U.S. Equestrian Team, a search began for a new three-star location.

There were 14 bids for the site—from Boston to San Francisco—including one from Richards. In December 1997, the American Horse Show Association, the sport's national governing body, accepted Richards' bid and approved a 25-year commitment. The International Equestrian Federation later endorsed the bid.

The Foxhall Cup takes place each year one week after the three-day Rolex event in Lexington. The only other three-star event in the United States is held at Fair Hill, Md., in October.

"I think this is the most exciting thing that's happened to the sport in this country," Capt. Mark Phillips, chef d'équipe and technical adviser for the U.S. team, told the media after the decision was announced. Phillips, the former husband of England's Princess Anne and a world-renowned horseman, added that Richards was "on a little bit of a mission to put on a 21st-century production."

Richards readily acknowledges his mission is to develop the Foxhall Cup to the stature among equestrians that The Masters holds for golfers. The 25-year contract is necessary to operate the event as a big "sports model," he says.

Richards brought Phillips aboard to design the course from the forested riverside, polo fields, cabins and stone barn—quarters for a stable of about 40 steeplechase horses. In addition to being a top competitive rider, Phillips is recognized for designing cross-country courses around the world, including courses for the British Open Championships, the European Championships and the Pan American Games. His designs feature big, bold fences that are friendly to horses, but require riders to deliberate how best to approach and overcome the strategic obstacles.

"The challenge for us was to do it differently—and better," Richards says. "We wanted to make it spectator-friendly. We wanted to have big grandstands close to the action, a lot of water and a patron's village close enough to be splashed by horses. From our stands, you can see about 15 jumps—and that's very rare. On a typical course in France, Italy, Australia, New Zealand or England, you would only see one or two jumps at a spot."

The course accommodates about 100,000 spectators. In addition to the stands, the course has raised, grassy, earthen mounds allowing spectators to see almost half of the course from a single vantage point.

More than 800,000 cubic yards of earth were moved to shape the overall site and cross-country course. Fields were elevated to assure proper drainage; several ponds were added and an irrigation and drainage system circulates the flow of water around the course.

Janet Chase Richards, an accomplished horsewoman and the daughter of Atlanta Steeplechase co-founder George Chase, says the farm is unrecognizable from the wooded bottomland of 10 years ago.

"This course is unique in the world," she says. "Nowhere else can you see all the different phases of an event. Americans love action, and Jim realized that. He said, 'We need to have the course compact, so people don't have to walk a lot but they still can see a lot.' Jim has incredible foresight. He would come out here every Saturday and Sunday and point out what he wanted to do. It is amazing how far this has come."

She added that her husband has also applied his business acumen to
"We're not doing this to make money," Richards says. "We're doing this to have fun and to help a good cause. It'll take a few years, but I'd say within five years this will be an important money-maker for the Shepherd Center." He says the goal of the Derby Day effort is to reach $1 million annually.

In creating the Foxhall Cup, Richards has assembled a team of professionals that includes Dave Simmons, managing director; Ellen Stone, executive director; and Tony Marlow, farm manager. Earlier, Simmons was CEO for the Paralympic Games in Atlanta, held immediately after the 1996 Summer Olympic Games, and Stone was director of sponsor services. Stone's background includes promoting dozens of major tennis tournaments and the 1990 Goodwill Games.

The Foxhall Cup benefits the Shepherd Center, a private nonprofit Atlanta hospital for patients with spinal cord and acquired brain injuries, multiple sclerosis and various neuromuscular disorders.

The Shepherd and Richards families have a long-standing friendship. Roy Richards Sr. and William "Clyde" Shepherd Jr., a member of the class of 1934, were roommates at Georgia Tech. "There are four Shepherd brothers—Charles, Harold, Clyde and..."
Dan—and they worked together in the construction business,” Richards says.

“Harold’s oldest son, James, had a surfing accident in Brazil 25 years ago, and that is what prompted them to start the Shepherd Center.”

James was paralyzed from the neck down, but after undergoing treatment in Colorado, was eventually able to walk with a cane and leg braces. Harold and Alana Shepherd, frustrated by the lack of a therapeutic hospital in the Southeast, established the Shepherd Center in 1975. In 1992, the Shepherds opened a new $23 million center, which now houses the largest spinal-cord injury program in the country.

Four years ago, Jim Richards began hosting a Derby Day fund-raiser for the facility, centered around watching the Kentucky Derby via television at Foxhall Farm. Derby Day continues as part of the Foxhall Cup, which is the reason Richards holds the event on the first weekend in May. Increased attendance due to the event is expected to generate more revenue for the Shepherd Center. During each of the past three years, the event was attended by about 5,000 people and generated about $250,000. This year’s 18th Annual Derby Day fund-raiser was the largest ever, attracting 6,500 people and generating $280,000 for the center, Richards says.

All of the proceeds for the Foxhall Cup go to support the Shepherd Center.

“We’re not doing this to make money,” Richards says. “We’re doing this to have fun and to help a good cause. It’ll take a few years, but I’d say within five years this will be an important money-maker for the Shepherd Center.” He says the goal of the Derby Day effort is to reach $1 million annually.

Beginning in 1999, Richards and Stone directed their emphasis to getting sponsors for the event. The title sponsor MBNA America Bank, a subsidiary of Wilmington, Del., MBNA Corp., has signed a three-year contract for the Foxhall Cup. The Ritz-Carlton Hotel Co., Morgan Stanley Dean Witter and MasterCard International are all major sponsors. Almost all of the cross-country jumps have corporate sponsors.

ESPN televised the event for a one-hour show targeted at international audiences, where equestrian competition carries widespread interest.

“Jim has seen this sport in England and in Europe, and it’s huge,” Stone says. “It’s like soccer. Everybody un-
The Olympic team convenes at the farm in July for a month of intensive training, and the team’s 20 horses will be quarantined so they can go directly from Atlanta to Sydney—certified free of drugs, pests or viruses.

Foxhall will be fumigated and its outer roads fenced-off. The Olympic team convenes at the farm in July for a month of intensive training, and the team’s 20 horses will be quarantined so they can go directly from Atlanta to Sydney—certified free of drugs, pests or viruses.

Opening ceremonies for the Games are Sept. 15. Team dressage competition begins Sept. 16.

Meanwhile, the Foxhall Cup has a Cinderella ending. Tiffani Loudon, a 24-year-old rider from Blytheville, S.C., riding her 14-year-old bay, Makabi, took a slight lead in the dressage competition. In the cross-country event, she and her horse gave another winning performance. Phillip Dutton, an Australian who was a member of his country’s gold-medal team four years ago, was only two points behind, and David O’Connor, a member of the U.S. silver-medal team, trailed by only seven points.

Although Loudon’s thoroughbred gelding was sore and tired that morning, he was superb in the show-jumping competition. Before a hushed crowd of 5,000 spectators, Loudon rode Makabi through a perfect round of stadium jumping, finishing to an explosive standing ovation and becoming the first Foxhall Cup winner.

In addition to the $55,000 first place prize, receiving the American Horse Show Association National Championship trophy and rosette, and having her name inscribed on the MBNA Foxhall Cup trophy—a 14-inch sterling...
silver bowl engraved with running horses and space for the names of 25 winners—Loudon had a dream come true.

Although she had missed the Kentucky four-star event, her performance at the Foxhall Cup earned her a place on the U.S. Olympic equestrian team. "That's every rider's dream," she said.

It was a Cinderella story for Richards, too. Not only did the inaugural Foxhall Cup succeed without a major glitch, Jim and Janet Richards had ownership in two horses competing in the event—Bartolomeo, a bay English-thoroughbred cross that was Janet's former riding horse, and Hyde Park Corner, a bay English thoroughbred. Both horses were ridden by Julie Burns Black of Newnan, Ga., who was ranked the No. 1 rider in the world following the May Rolex event in Kentucky.

Hyde Park Corner, a 9-year-old gelding, and Black, who also shares ownership of the thoroughbred, are among the horses and riders selected for the U.S. Olympic team.

"I've got my tickets to Sydney," Richards says with a cheerful laugh.

Richards has turned being a spectator into an adventure. And as he polishes the Foxhall Cup into a premier event, he hopes to have the whole world watching. GT
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Gorillas
Endangered

Technology boosts efforts to save Africa's endangered mountain gorillas • By John Toon

Georgia Tech researchers are using advanced technologies to help save endangered mountain gorillas in Rwanda. Working in partnership with conservation organizations and universities on two continents, scientists continue the work of naturalist Dian Fossey, who for nearly 18 years until her murder in 1985 studied the lives of mountain gorillas living in the Virunga Mountain Range. Armed with camera, binoculars
"The idea of tying GIS, GPS and communications together is a fairly new concept. We will bring technology that hasn’t traditionally been used in field conservation."

—Georgia Tech scientist Nicholas Faust

Resting for a moment during a recent trip to the mountain gorilla habitat in Rwanda, Georgia Tech principal research scientist Nicholas Faust reflects on the perils facing the endangered species that depend on the lush vegetation of the Virunga Mountain Range for their habitat—and their lives.
"Because we are a field conservation organization, it is imperative that we aggressively pursue more efficient ways to collect data, then have experts available to analyze that data, especially as it applies to habitat."

—Clare Richardson of the Dian Fossey Gorilla Fund

and field journal, she and a community of trackers documented intimate details of the gorillas' lives. Her work, popularized by the movie "Gorillas in the Mist," left a treasure trove of information about these highly endangered creatures.

The partnership will put the technologies of remote sensing into the hands of field scientists working to protect the gorillas—while helping Rwanda rebuild its national university and recover from a genocidal 1994 war.

It may also demonstrate how science can boost the struggle to protect other endangered species.

"Our first goal is to use modern-day technology to bring new clout to field conservation, ecosystem management and endangered species protection," explains Clare Richardson, president of the Dian Fossey Gorilla Fund International (DFGFI), based in Atlanta.

Habitat loss poses the single greatest threat to the mountain gorillas. The most densely populated nation in Africa, Rwanda today struggles with the task of resettling more than a million people in the aftermath of war. The need for crop land, as well as timber for homes and cooking, threatens the protected reserves and allows human disease into the fragile gorilla habitat.

The first applications of the new technology, therefore, will be to assess the existing gorilla habitat, explains Nicholas Faust, principal research scientist at the Georgia Tech Research Institute. Tech researchers will work with Dr. H. Dieter Steklis, chief scientist for DFGFI, to combine geographic information system (GIS) data from satellites with hyperspectral data gathered by a special aerial camera and demographic information recorded on the ground—including the Fossey Fund's long-term database designed by Dian Fossey more than 30 years ago. That will give researchers and Rwandan authorities a measure of how many gorillas the area can support, and establish a baseline for documenting future habitat loss.

The technology may also help scientists understand the complex environmental interactions affecting gorillas. For instance, gorillas seem to prefer certain areas of the forest, yet carefully avoid others. Scientists do not know why, but a more detailed understanding of the terrain, vegeta-
tion, water supply and other factors may provide clues.

Slightly more than 600 mountain gorillas survive in Central East Africa, ranging across national parks controlled by three different nations: Rwanda, the Democratic Republic of Congo and Uganda. Security concerns over the past few years curtailed regular patrols. In spite of this, the gorillas fared well and the Karisoke trackers and scientists are now back in the Virungas with armed escorts.

These indomitable trackers will soon receive additional training in use of new technology. Working with researchers, they will break new ground in combining GIS data with global positioning system (GPS) technology and wireless communications. Ultimately, wireless communications systems tied into the Internet will allow quick transfer of data from field scientists to biologists anywhere in the world.

The Dian Fossey Gorilla Fund’s GIS and remote sensing program, begun in 1992, got a boost recently from an Idaho company, Earth Search Sciences Inc. (ESSI). As part of a National Geographic television project, ESSI gathered hyperspectral “data B” high-resolution images recorded simultaneously in multiple wavelengths. Turned over to Fossey Fund scientists and the Rwandan government, this information provides rich new detail about vegetation in the area, even to distinguishing plant species.

Using GIS and other data, Georgia Tech also created a virtual Virungan environment on its Atlanta campus, using a three-screen projector system that allows a three-dimensional simulation. The system—known as the Non-Expensive Automatic Virtual Environment (NAVE)—offers a powerful tool for visualizing the potential impacts of change, Faust adds.

The multi-screen, multi-user stereoscopic system was designed to extend applications for virtual environments by dramatically reducing system cost. Developed by Dr. Larry Hodges, Dr. William Ribarsky and others in Georgia Tech’s College of Computing, it relies on personal computers rather than costly workstations for rendering scenery.

Help from NASA’s Data Resources

The partnership may also get help from the National Aeronautics and Space Administration (NASA), whose Digital Earth initiative seeks to make the agency’s vast data resource, powerful imaging tools and 25 years of expertise available to field scientists. Dr. Timothy W. Foresman, national executive manager for the initiative based at NASA’s Office of Earth Science in Washington, views the collaboration between Georgia Tech, the DFGFI and the National University of Rwanda as a valuable demonstration project.

NASA satellite imagery may help scientists better understand how GPS, remote sensing, GIS and environmental modeling are being used to make decisions in Rwanda, Foresman explains. “We will learn what really works in the field so we can begin to take these global resources and make them relevant to the people who really need them.”

Like Faust, he wants to explore how different technologies can work together—especially now that data can so easily be provided across the Internet. That could lead to development of a true global clearinghouse for digital data applicable to conservation, planning, resource management and other purposes. By using appropriate low-cost technologies and providing data, tools and consultation at no cost, Digital Earth will make these resources more widely available.

Foresman says the next step in the NASA collaboration is to define the specific resources the space agency can apply to this project.
"Digital Earth is becoming a national and international framework for understanding how all these technologies come together, using the world’s infrastructure to better understand human involvement with the Earth. All of these things cross borders, because you can’t do them in isolation."

—Timothy W. Foresman, NASA Office of Earth Science

**Moving Beyond Gorillas**

Though the Dian Fossey Gorilla Fund focuses on conservation of the gorillas, the well-being of the animals cannot be separated from the well-being of the country in which they live. For that reason, the partnership has taken on broader goals.

“We would also like to take certain elements of these technology applications so that we are building scientific and technical infrastructure in the countries in which we work,” Richardson says. “We want to provide the training and equipment for local universities to learn to collaborate internationally. Ultimately, we want to have centers for GIS and remote sensing dotted around the globe.”

To further that goal, Faust and collaborators at Georgia Tech’s Center for Geographic Information Systems—including director Steven French, Paul Beatty and Subramahyam Muthukumar—spent five weeks in February and March teaching two officials from the National University of Rwanda about GIS and remote sensing. Back at their university, the Rwandans will pass on their knowledge to additional faculty and students, using GIS workstations provided by Georgia Tech through the Georgia Research Alliance. Web-based coursework designed by the Georgia Tech GIS Center will make such learning possible.

“We will set up the first center for GIS and remote sensing at the university, and our goal will be to train others in this new technology,” says Dr. Safari Bonfils, dean of science and engineering at the National University of Rwanda.

**Above:** Geographic Information System (GIS) data is used to study land use in the fragile habitat of the mountain gorillas. In a training session in GIS and remote sensing techniques, Paul Beatty (center) of Tech’s Center for Geographic Information Systems, Dr. Safari Bonfils and Ntemukia Joel study a GIS image of an inactive volcano in the Virunga Mountain Range.
of Rwanda. "The students will use this technology for applications in agriculture, social science and the sciences. This will be very helpful for our country, especially for planners in the government ministries."

A physicist, Bonfils sees long-term benefits to the university. "Our departments will use this technology to improve their research and teaching. This will bring current technology to our work."

The university plans to model its GIS center after Georgia Tech's, which serves as a statewide clearinghouse for remote sensing data. Centralizing GIS data and interpretation expertise at the national university will give Rwanda the most benefit from the equipment and investment, Faust says.

Beyond providing information useful for managing the gorilla habitat and planning for the country's needs, the GIS and remote sensing technology could also help the government explore for minerals—and even update the nation's maps.

Repairing the nation's infrastructure and encouraging good land-use planning is important to the gorillas' long term survival. Before the 1994 genocide, income from ecotourism was important to Rwanda's economy, its second-largest source of outside revenue. If that tourism can be restored, the country will be better able to afford investments in protecting the gorillas.

"The relationship with Georgia Tech will help Rwanda enhance its capability to bring in new investment and develop its resources," Faust says. "The historical focus of the Dian Fossey Gorilla Fund is on conservation, but the longer-term goal is human and economic development for the entire region of Africa."

The Georgia Tech involvement, made possible by equipment funds from the Georgia Research Alliance, joins with similar efforts being made by other universities. One such project, led by the University of Maryland, will provide distance learning opportunities and help develop communications infrastructure in the country.

Applying the Lessons Learned

The issues faced by mountain gorillas in Rwanda parallel those of other endangered species elsewhere in the
Through the use of imaging technology so sensitive it can distinguish plant species, "we can determine how many gorillas the habitat can sustain. This would provide the park authorities with information that would help them."

—Dr. H. Dieter Steklis, chief scientist for the Fossey Fund

Partners from Georgia Tech, the National University of Rwanda and Fossey Fund view Rwandan terrain on Georgia Tech's three-screen visualization system. The system allows viewers to immerse themselves in the scenery, facilitating discussion of land-use issues.
world: pandas in China or elephants in Zaire.

"Endangered species around the world are endangered because of threats to their habitat," Richardson states. "The habitat and vegetation will be different, but the elements of the model remain the same."

To expand the collaboration, the Dian Fossey Gorilla Fund International, Georgia Tech, Clark Atlanta University, the Georgia Research Alliance and Zoo Atlanta expect to form a new Institute for Conservation, Research and Technology. This organization will provide information to other field scientists and make technology available to other governments.

"If we can become an international clearinghouse for this data through expanded partnerships with the private, public and government sectors, then field scientists will be able to contact the Institute to obtain the remote sensing and spatial analysis information they need," Steklis explains. "This would allow them to obtain the information they need at a minimal cost, and gain the expertise to interpret it."

The Georgia Research Alliance (GRA), a public-private organization that makes strategic economic development investments in Georgia’s research universities, views the mountain gorilla project as a way to further Tech’s application of sustainable technology to conservation.

“Our vision is to help position Georgia Tech researchers as world leaders in the use of geographic information systems and other spatial analysis technologies for conservation,” says Georgia Research Alliance President C. Michael Cassidy. "When coupled with the field experience and expertise of our partners—the Dian Fossey Gorilla Fund International and Zoo Atlanta—this initiative will become a model for other conservation projects."

The equipment provided by the Georgia Research Alliance played a crucial role in securing other investments, a role the GRA has played often in Georgia. "It was truly the catalyst for getting this program off the ground. We were able to leverage this commitment to involve others," Richardson says.

Zoo Atlanta Offers Learning Environment

Zoo Atlanta’s international reputation for conservation and education will play a key role in sharing what the new Institute learns. "The zoo is the major vehicle for public education," Richardson says. "It is not only a field research and conservation organization, but it also offers a wonderful education program that reaches a broad population that needs to hear the message of conservation."

Plans call for GIS and spatial analysis technology to be part of Zoo Atlanta’s new Willie B. Conservation Center. There, through immersion environments like those at Georgia Tech, visitors will be able to experience what researchers see in the Virunga Mountains.

A Unique Opportunity for Georgia Tech

Beyond the research and potential collaborations, the partnership offers Georgia Tech researchers and students a unique opportunity—and furthers the institution’s goal of applying its technology to environmental concerns worldwide.

"This is a major step for Georgia Tech to become more involved with international environmental applications," says Dr. Charles Liotta, Georgia Tech’s vice provost for research and dean of graduate studies. "This fits in well with the Georgia Tech ‘green engineering’ initiative, and is a perfect test case with high visibility."

The project offers broad-based potential applications for Georgia Tech’s expertise in computing, planning and civil and environmental engineering, he notes. It will also make the most of the institution’s existing collaborations and close ties to Zoo Atlanta.

Liotta says Georgia Tech and the Dian Fossey Gorilla Fund International will pursue funding for the new Institute from national, local and international funding agencies, the private sector and foundations.

For Georgia Tech students, the gorilla project offers an opportunity to study in a laboratory unlike any other. Faust adds, "This is an experimental laboratory in the real world. The applications for this are really boundless."
“Our vision is to help position Georgia Tech researchers as world leaders in the use of geographic information systems and other spatial analysis technologies for conservation.”

—Georgia Research Alliance President Michael Cassidy

Let sleeping gorillas lie.... Georgia Tech wants to protect an endangered species and, "with a minimal investment, do a lot of good for the government of Rwanda, as well as meet needs for technology in conservation," Nicholas Faust says. "We will provide software and systems that will allow them to establish their own capability and provide services to the government."
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Compositor uses technology to bring a sense of fantasy and reality to the big screen

By Maria M. Lameiras

Harsh alien landscapes. Futuristic cities. A massive prehistoric monster. An epic vessel on a doomed voyage—making these fantastic visions look real is Charles Meredith's job.

Meredith, EE 83, is a compositor for The Secret Lab (TSL), a visual effects company owned by Disney, and he was part of a team that perfected the dazzling effects for Brian DePalma's "Mission to Mars," released in theaters in March.

"Basically I'm a two-dimensional artist. Compositors assemble the final images for a shot with elements that come from a variety of sources—whether it's practical photography, blue- or green-screen
photography or elements the graphic artists give us—and we make them look real," Meredith says.

For "Mission to Mars," Meredith, 39, worked on shots of the astronauts' rescue mission to the Red Planet and on sequences that featured what the artists dubbed "the vortex," a swirling, tornadic guardian left by the ancient Martians to protect their planet. He says the heavy particle animation he and other compositors had to work with on "the vortex" was a good example of how compositors help make a movie realistic.

"You get a lot of elements that are almost all done completely by computer and by different people, but when you assemble them, it just doesn't look right at all. It's all computer generated or a matte painting, so it's all basically artificial, and it looks terrible when you first put it all together," he says. "It's the 2-D guys who come in and make all of these things work together."

Using sophisticated computer software, the compositors "tweak" the shots—adjusting color and lighting, orienting the images to one another, making subtle changes—until the shot looks smooth and realistic.

"Sometimes everything lines up really well, and then you are just trying to adjust the coloring and lighting and photographic-type things," Meredith says. "Sometimes there are shots where it's difficult to figure out what's missing. People are used to seeing the real world and there are nuances—like shadows and how they appear—that are difficult to get exactly right."

Surprisingly, Meredith says it is less difficult to make an alien or futuristic landscape look real than one based in present reality.

"It is easier to do features that are more stylized because no one really knows what another planet is supposed to look like. When you are dealing with the real thing, it is pretty hard because people have visual cues to draw on: They know what it is supposed to look like."

Depending on the scope of a project, it may take dozens of artists months to complete even a small part of a feature film. Meredith was one of about 100 artists at TSL who worked on the first portion of "Mission to Mars." Another company was responsible for visual effects on the second half of the feature.

Working in Hollywood, the Westlake Village, Calif., resident is a far cry from his native Vidalia, Ga. His distance from his hometown is reflected in the professional distance he has traveled since studying electrical engineering at Tech.
the 2-D guys who come in and make all of these things work together.

After graduating in 1983, Meredith went to work in the radar division of Texas Instruments in Dallas.

"I actually wanted to go directly into sales, but I had a professor who counseled me against that," he says. "He said if I went into sales and didn’t like it, it would be harder to get into the engineering, but if I went into engineering for a while, it would be easier to get back to it later if I didn’t like sales. It was good advice."

After a year at TI, Meredith began working in marketing in the company’s semiconductor group before joining LSI Logic, a semiconductor company in the San Francisco Bay area. After two years, he was offered a sales job with the company in Washington, D.C., where he stayed another two years. He left LSI to work in Washington for a company called Actel.

"I worked there another couple of years, but I am one of those people who gets a little bit bored with stuff after a while," Meredith says with a laugh. He decided to leave Actel in 1991 and return to San Francisco to pursue a career in the film industry.

After an attempt at film writing, Meredith was working with a company in a turnaround effort when his fiancee, Terry, saw a news item that said a company called Silicon Graphics was opening a training facility in Santa Monica to teach computer-generated visual effects.

The company hired Meredith as a teaching assistant at the new facility, and while he taught classes, he earned certification as an instructor.

He began interviewing with visual effects companies and landed a job with Digital Domain, where he worked on his first major feature, "The Fifth Element," a science-fiction movie starring Bruce Willis.

"My dad was always in love with movies. He used to talk about when he was a kid in Savannah, going to the local movie theater on weekends for the Saturday matinee and staying all day watching the serials and movies," Meredith says. "I can’t say that led me toward the movie industry, but then 'The Fifth Element' came out and my parents went to see it in Mississippi. My father is Charles C. Meredith Jr. and I’m named for him, so I had them just put Charles Meredith in the credits so my father could see his name on the screen. They thought it was really neat."

While at Digital Domain, Meredith also worked on the blockbuster "Titanic." Meredith says he spent three months on a shot that was eventually picked as the opening sequence for the film and was featured on the cover of Millimeter magazine.

As a freelancer, Meredith signed on with Centropolis...
Effects run by Dean Devlin and Roland Emerick, where he worked on the television show "The Visitor" and the big screen's "Godzilla." Afterward, Meredith did small movie, television and commercial projects for various companies before landing a project with Rainmaker Digital Pictures out of Vancouver, British Columbia.

There Meredith worked on a seven-week television movie project called "Max Q" by producer Jerry Bruckheimer, an effects-laden space thriller for ABC that earned Meredith and a dozen other artists nominations for Emmy Awards in 1999.

Last year, Meredith began doing the freelance work for TSL that led him to work on "Mission to Mars." Since finishing with the film, Meredith has signed on with TSL for a two-and-a-half-year stint as a contracted employee. But, given his circuitous career path, he's not sure what the future will hold. "A couple of years from now it could be something different," Meredith says.

"Changing careers like this is not necessarily the best thing to do if you want to move up through the ranks and become vice president of something," he believes. "The project-oriented nature has its good and bad aspects. The bad side is sometimes you find yourself out of work because a lot of places, even if you're on staff, don't have the wherewithal to keep a lot of people if there's not enough work.

"But the really positive aspect for me is that you actually finish something that's pretty solid. Movies come and go, but once it's done, it's done. Once it's projected up on the screen in that theater, that's basically what it's going to be, and 50 years from now I'll still be able to get a copy of 'Titanic' in some format and be able to say 'Hey, I contributed to that.'" GT

"The positive aspect for me is that you actually finish something that's pretty solid. Movies come and go, but once it's done, it's done. That's what it's going to be, 50 years from now."
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Philanthropist James Carreker encourages other entrepreneurs to invest in their communities.
amount of wealth has been created in Silicon Valley. But, in fact, there is also a great gap in giving back to the community,” Carreker says. Unlike cities such as Atlanta, for instance, there is no history of corporate largesse by century-old companies. “That type of corporate giving is not standard practice in Silicon Valley,” he adds. “Part of it is because even the oldest of the new stage of companies are just teenagers.”

Those teenagers are coming of age now. Less than three years into the foundation’s existence, around 100 companies have been enlisted. The first of those has gone public, so stock funds are becoming available and the first community programs are receiving funds.

Difficult as it was for the Entrepreneurs’ Foundation to develop a model for corporate giving in an area that was orchards less than three decades ago, Carreker’s experience with his own company eased the task. For the past seven years, Aspect has filtered a percentage of profits back into communities where it has offices, from Silicon Valley to Amsterdam.

The company puts aside 2 percent of pre-tax profits —more or less, depending on meeting business expectations—to build a community fund. A certain portion is given directly to community organizations, while the rest goes to create an endowment to keep funds flowing during down business cycles.

“That has seemed to work well. We’ve been able to test that model now through a business cycle, and it seems to do what we had intended that it would do,” Carreker says. Aspect then created an “employee council” to determine how the money—about $400,000 a year, currently—is used each quarter.

“And we surveyed our employees about what areas they had an interest in supporting. We found that there was broad support—not only in Silicon Valley, but in the other locations where we have groups of employees—for the broad category of youth at risk,” Carreker says.

Jim Carreker’s giving spirit is reflected not only in the Entrepreneurs’ Foundation and at Aspect; he also has dedicated time to various causes in the San Francisco Bay area over the past 20 years, including Design Response, an organization created by his wife of 31 years, Helen. An interior designer, she brings together professionals to improve the facilities of nonprofit agencies.

“Most non-profits don’t have a large budget for their facilities. They put their effort into the service delivery to their specific clientele, and in many cases their facilities are in need of some degree of improvement so that they’re places for people to be served with dignity and honor,” Carreker says. GT

IBM’s Top “Tech-an”

Rod Adkins heads up the Big Blue operation in Texas

By Sherri Brown

R od Adkins, who helped IBM develop its computer market on his way to becoming the company’s highest ranking executive in Texas, says Georgia Tech played a role in his success.

“I’m convinced the Tech experience is directly related to the success I’ve had at IBM. Tech built up my endurance system. It was extremely challenging—a broadening experience that has helped me throughout my career,” he says.

Adkins graduated from Georgia Tech in 1981 and joined IBM to work on printer development. “We developed printer devices that attached to large computer systems,” he recalls. But after a year, he took an educational leave and returned to Tech to work on a master’s degree in electrical engineering.

It was a well-planned return—planned by his future wife.

“It just happened to coincide with Michelle’s senior year,” he remembers with a laugh.

Adkins met Michelle his first year at Tech, after she had completed three years at Rollins College in Winter Park, Fla. “A high school counselor I knew told me she was coming to Tech and he told me to look after her,” he says.

The two had grown up in the same Miami neighborhood, but had never met, “probably because of the three-year age difference,” Adkins says.

They both finished Tech in 1983 and married that same year, then Adkins returned to IBM. This time he joined what he refers to as the “Rebel Crew”—the team that developed the first wave of personal computers.

For 14 years, Adkins helped create and develop the personal computer market, including the first laptop personal computers.

“I had the pleasure of watching computers turn from desktop to portable devices to large server devices,” he explains.

The best part was “the fact that we were creating a market. It was fast-moving, rapid adoption of technology. You had to do things fast,” he says.

Because IBM works through a team approach, Adkins participated in the conception, definition and execution of products. “We took it from concept to development to launching, and even retiring, a product.”

Five years ago, Adkins was named a general manager with his first assignment to run the multi-billion-dollar PC Desktop and Work Station unit. His shift from development to management was a natural.
“I’ve always been a gadget guy, but through my management role I still get to work fairly closely with developers. It’s more setting direction and meeting commitments for the business, but in some sense I’ve always maintained a level of creative content. It’s a different focus, but I still have to have skills in understanding programmers and engineers,” he says.

Adkins’ current position is vice president and general manager of the Web server division. Based in Austin, Texas, he oversees the work of the UNIX operating system environment.

“These are systems we design for computers ranging from work stations to super computers,” he says.

Since his move to UNIX, his group has developed programs to deal with some of the most complex scientific problems. “For instance, we developed a system that simulates atomic bombs. It allows the government to do software simulation instead of actually building and testing bombs,” he says.

The team also developed systems that do predictive analysis of weather.

“We did the weather forecasting of the Atlanta Olympics. With a traditional system predicting a storm, they normally would have had to cancel the closing event. But our system predicted that the storm would be 20 miles away, so the event went on as planned,” Adkins recalls.

His latest project is working on the Internet and e-business.

“You’ll see us continue the drive for user devices to be smaller and more intuitive. At some point we’ll take the flow and access of information for granted because of technology. A lot we do now with pencil and paper will go away. We’ll be a fully connected world.

“Our job is to make sure we have the technological infrastructure to support this ever-increasing need,” he concludes.

As the top IBM executive in Texas, Adkins also serves as IBM’s state executive, representing the company’s business interests politically. And last year, he was appointed to the elite world-wide management committee which comprises the top 50 IBM executives. Working with chairman Lou Gerstner, the group establishes the direction and priorities for the entire company.

Although his job requires extensive worldwide travel, Adkins manages to spend time with his family, including his sons Rodney II, 11, and Ryan, 9.

“We do the traditional Little League things—soccer, baseball, basketball,” he says.

Even though at IBM he’s a top computer man, at home he often loses that title. “The boys beat me bad on the computer and video games,” he admits. GT

Sherri Brown is a freelance writer in LaGrange, Ga.
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A Chaotic World

William Ditto uses chaos to treat debilitating health problems, advance computer technology

By Maria M. Lameiras

Controlled chaos may seem like an oxymoron, but there is no denying the patterns of success William Ditto has had using chaos theory in biomedical research on seizure and heart-attack treatments and in his promising start into biocomputing research.

After earning his doctorate in physics, Ditto worked as an engineer for the Department of the Navy from 1989 until 1991, when he took an assistant professorship in physics at the College of Wooster in Wooster, Ohio.

There Ditto began research on ventricular fibrillation, the type of heart attack that kills one in six people. The aim of the research was to develop an improved, less traumatic technique of defibrillation—the practice of "shocking" a patient's heart with a large current of electricity delivered through the chest to try to return the heart to a normal rhythm.

While flying home from a conference in India, Ditto was pondering the overwhelming nature of his work. "You sometimes get to a point where you think, 'is this worth it?' You hit a point where you can do easier work and not handle such hard problems," Ditto says. In the midst of Ditto's contemplation, a man sitting two rows behind him suddenly rolled into the aisle and stopped breathing.

"There were six doctors on the flight. We were diverted to the airport in Nuremberg. It took 40 minutes to fly there; about 20 minutes before we landed, he was clearly dead," Ditto recalls.

The doctors determined the man was suffering from ventricular fibrillation—a condition in which the heart speeds up and the beat becomes chaotically irregular—triggering a heart attack. If a defibrillator had been available, the man's life potentially could have been saved.

Ditto experienced an emotional epiphany.

"I decided then I would not let the difficulty of the problem stop me. I still feel that pressure. I have the opportunity to make a critical difference in the human condition, and I have to try to do that," Ditto says.

As a result, Ditto formed Control Dynamics Inc., a start-up company that develops chaos-based devices and is developing practical applications for the research. He gave a lecture at Georgia Tech and was approached by the administration to gauge his interest in founding a chaotic systems lab at Tech.

"I liked what Tech was doing, so I came here," Ditto says. Since 1993, he had served as an assistant professor of physics and, jointly, as an assistant professor in electrical and computer engineering. Last year, he received a joint appointment from Tech and Emory University as a full professor in bioengineering.

"The heart of where Georgia Tech is going is interdisciplinary sciences and engineering. This is one of the few institutions in the world where you are encouraged to cross disciplinary lines," Ditto says. "We have found you can solve problems that way."

By embracing an interdisciplinary model, Georgia Tech is taking a bold step at which many older, established universities are balking.

"A university fills a role the way start-ups fill a role, which is really to question the natural order of things," Ditto says. "We are probably at the epicenter of some of the most amazing research and researchers in the world. Quality is attracting quality here and people who didn't know us before are now coming here, and others to Atlanta to be near here."

At Tech, Ditto has expanded his research to include applications of chaos control in the brains of epilepsy patients. Current treatment for epileptics who suffer frequent, uncontrollable seizures includes use of anti-
seizure drugs that can arrest cognitive development in young children, or surgical removal of portions of the brain where the seizures originate—which can cause loss of function and carries a risk of continued seizures.

"We are looking at things to pace the brain electrically rather than to scoop out brain tissue," Ditto says. "One of the big fields of research is trying to directly interface with neuron systems."

Ditto's most recent research deals with creating computer systems that combine silicon and neural tissue into computers that will eventually be able to adapt to solve problems.

As people rely more and more on computers, they have become increasingly faster to handle more complex problems, but their ability to do so is finite.

"One small piece of tissue in the human eye is a billion times faster than the fastest super-computer," Ditto says. "In about 10 years, computers are not going to be able to get any faster because we will have reached the limit of the laws of physics."

To circumvent this problem, researchers are looking at different alternatives—primarily quantum computers and neurosilicon computers. "Computers do things in a stupid way," Ditto says. "When they play a game of chess, they compute out a move as far as possible. They can't evolve toward an answer; it is not a creative process."

Neurosilicon computers would be able to adapt, improve and learn to do many things without the extensive programming computers now require, Ditto says.

In their research, Ditto and his colleagues have coupled leech neurons with silicon computer elements and have found that they are able to do simple functions such as addition.

Using principles of chaos theory, Ditto stimulates the neurons and the computer extracts the answer to the problem from the neural activity that results.

The future potential of the neurosilicon elements includes computers that can solve theoretical problems, perform pattern-recognition functions and take over rudimentary controls performed by the human body.

"In one application we could interface wild neurons in the body to tame neurons in a computer in an artificial arm that would function like a natural arm. We could create artificial retinas or auditory systems to solve problems that right now we are solving with silicon systems," Ditto says.

"At the end of five years, our goal is to have a living CPU chip that is proof of the concept of utilizing living tissue for computation and that can hopefully do something better than today's machines." GT
Restful Outlook

Gazing out of the stone stables at the Foxhall Cup, this horse has a "Where'd everybody go?" look. No wonder. With more than 90 horse and rider combinations contending in the triathlon of dressage, cross-country and show jumping events, the Foxhall stables were at times a very busy place. At other times, the stables, nestled among the trees, provided an ideal place for horses to rest while waiting to compete in the three-star equestrian event.
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