
UAH Magazine

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Fall 1996

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University of Alabama in Huntsville

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UAHM Magazine

Fall 1996



**Are you
gearing up
for the
changing
workplace?**



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UAH Alumni Managers Gear Up for 21st Century

by Phillip Gentry

"... the CEO of the future will be less hands on, more of a results type of individual."

— Frank L. Collazo, '79 & '82
Executive vice president
Collazo
Enterprises, Inc.



As business, industries and institutions shift gears to cope with the changing business environment of the waning 20th and early 21st centuries, who (or what) will be the paradigm for the future boss?

Will it be a kindly, caring corporate mentor? Or will it be a lean, mean downsizing machine?

Maybe neither, but top business executives of the near future will continue to face increasing pressures to stay or become competitive, efficient — and lean.

"The days of guaranteed employment are a thing of the past," said P. David Campbell, president of the Dunlop Tire Co. "Competition is extremely fierce. You've got to cut cost. If you don't do it, you will not survive.

"I don't get up in the morning thinking about ways to eliminate jobs. I get up thinking about ways to operate more efficiently. Sometimes you have to take positions that are extremely difficult."

"It's becoming very competitive," agreed Gurmej Sandhu, '79, founder and president of SigmaTech, Inc. "That means we have to be very cost efficient. We have to cut corners wherever we can to compete."

As the business environment becomes more competitive, how does that change the boss?

Capt. Kirk beamed down, but Capt. Picard delegated

Two business trends seem to be pushing top management in opposite directions.

One is the increasing use of production teams; groups of production workers and low-level managers making decisions about production processes. In the past, many of these decisions would have been reserved as the domain of middle, even upper, management.

"We have moved away from a purely pyramid structure to more teams," said Marc Bendickson, '80, president of Dynetics, Inc. "We have found them to be pretty attractive. We implemented them in our technical publications department and we're finding some significant improvements there. Teams are going to permeate our entire organization."

"You have got to have an extremely efficient manufacturing operation," says Campbell, who attended UAH in the late '60s. "We don't measure how many teams we have any more. That's just how we do business.

"My job is to provide the vision and the strategy and to keep the employees focused. It means we want to empower the employees. You've got to give them the tools to make those decisions."

Those tools, he said, include technology, training and information. It may also include coaches to help employees who are not accustomed to making management decisions.

"I think empowerment sounds like you start with slavery," said Bendickson. "If you form a team, it would be foolish not to give it the ability to make meaningful decisions. We were encouraging that before empowerment became a term. In a research and development environment, you want people who are autonomous and self motivated. We have fewer top-down directed decisions."

If that is the general trend, it means the CEO of the future would spend less time worrying about the minutia of making widgets and more time deciding whether her company will continue to make widgets at all. The days of the hands-on CEO who goes on the shop floor and gets involved in production decisions may be numbered.

"And that hurts," said Frank Pitts, '76 and '81, founder and president of Quantum Research. "I'm a professional analyst, rather than a professional manager. I'd rather be involved in the technical aspects. I'm slowly adapting to handling more and more of the management aspects, and handing off some of the technical aspects to the other guys."

"I think the CEO of the future will be less hands on, more of a results-type of individual," said Frank L. Collazo, '79 and '82, executive vice president of Collazo Enterprises, Inc., which includes among its subsidiaries COLSA Corporation. "He would be more likely to say, 'I don't care how you get there. Here are your goals and these are your resources.'"

"As he/she leaves the role of operations manager, this now elevates the corporate CEO or president to the role of strategy designer," said Dr. William Souder, UAH's eminent scholar in management. "That person ought to be thinking: 'Where are we going to be 10 years from now?'"

"The CEO is supposed to be setting strategies and making those kinds of large scale decisions," said Dr. Dorla Evans, assistant dean of UAH's College of Administrative Science and professor of finance. "They're certainly going to have to be knowledgeable about their products, but they're also going to have to be good business people."

"Interestingly enough, I'm beginning to look at not where I want the company to be 10 years down the road, but I'm looking at where *the company* wants to be," said Pitts. "In some cases, the direction the company is taking is different from what I would have predicted. Part of the time I'm spending now is trying to get on top of and understand where the company ought to go in the next five and ten years."

What does that say to Pitts? "It says I'd better get off my rear end and learn something about our new areas of expertise," he said. "That's actually a refreshing challenge. I don't have to be an expert, but I'd better be able to explain what we do, how we do it, and why we do it to someone who isn't an expert."

As teams become more prevalent and top management has more time to spend on strategy, however, the ongoing spasm of corporate downsizing seems to push in the opposite direction.

As companies across the country reorganize, much of the cutting has come at the expense of middle management. Entire tiers of management have been eliminated in many companies, bringing the CEO or president closer to the production level.

"The positive side of that is that the information doesn't get filtered so many times," said Campbell. "Your access to

information is much more direct. The CEO gets a lot more information from a lot more sources. The challenge is to prioritize and handle all of this information and provide direction."

"There is so much information out there," said Bendickson. "There are just tremendous amounts of reading that have to be done. Fifteen years ago it was easy to read all the information that was available on PC's. Now you can't possibly stay up, even if you devote all of your time to it."

"All the CEO's I know say that is a constant battle. How do you swim through this constant sea of information?"

The main frame connected to the network, The network's connected to the PC ...

Handling that sea of information will make it increasingly important for top executives to master information technology, according to Evans: "I think it will be important for CEO's to be able to analyze data quickly and spot problems before they get too far along. You don't want to wait until the end-of-the-month report comes out."

"I think a lot of CEO's still don't have very good computer skills," she said. "People with more sophisticated computer skills will be at the top within ten years."

"A year or two ago we set up a network in the company," Collazo said. "That has been quite useful. Now our executives carry laptop computers with them. If you need to you can finish a report on the plane while you're traveling and when you're finished all you have to do is find a modem."

"We have networked our entire campus here," Bendickson said. "We have a contract database. Before we start a project we have to write task plans, with all the milestones, dates and deadlines. Our contracts database is very important to us."

"We get a lot of little contracts, two- or three-man jobs. On little jobs like that, we can't afford to have upper management watching the details and changes. We have trained our people to take care of their own financial reporting. Our software tells us when we have a report due. It gives the authors warnings of upcoming deadlines."

"If we tried to do all of that with upper management, we would fail."

"As we grow, we've got to be able to ship information around faster and more efficiently or we're going to lose our competitive edge," said Pitts. "We do a much better job of helping our customers solve their information technology problems than we do our own. Part of the problem is that it's expensive for a small company. No sooner do we get 486's for everyone than they come out with the Pentium."

And, if a customer gets updated equipment and software, there is no guarantee that it will be compatible with or able to communicate with antique computer systems — those that are two or three years old.

Whatever the trends in communication, organization and management might be in the next 10 or 20 years, for the successful CEO the bottom line is always going to be the bottom line.

"CEO's have to make decisions that are in the best long-term interest of their companies," Campbell said. "They owe it to their employees, as well as to their communities."

The Business World Commandeth: Thou Shalt Go Global

Whether you and your company like it or not, welcome to the global market.

With international companies offering more products and services in domestic markets, local companies are going to have increasing global competition even if they don't choose to market their products globally, said Dr. William Souder. "We don't have a monopoly of anything anymore."

"I don't think many businesses of any size are going to be able to compete without a global component," said Dr. Dorla Evans. "But people don't casually get into international business. They can't wait for people to come to them."

"They have to figure out how to market overseas, which is more than advertising. How do you get your product there? There are whole layers of regulations. In high tech, there are export controls."

"I'll tell you something that shocked me," she said. "Did you know that you are in violation of U.S. export laws if you take your laptop out of the country with the domestic version of LOTUS 1-2-3 on it? That's because it has an encryption function as part of the program. The whole process is really daunting. The top level manager has to decide, 'We are going global.'"

"In our company we import and export to the European market and to Japan," said P. David Campbell. "We have a plant in Canada. We're in Mexico. You have to be cognizant of those areas."



Dorla A. Evans, assistant dean and professor of finance

You have to be much rounder and broader in your experience. At Dunlop, we have

international top managers meetings ... to clarify those communication issues."

"Nowadays you can't exclude international markets," said Gurmej Sandhu, '79, president and founder of SigmaTech, Inc., an R&D company which recently started a subsidiary to develop commercial products. "There's no such thing as a local or national market. Our emphasis will be on starting local and then moving outward."

Moving into global markets, however, poses a variety of challenges.

"One of the biggest things is culture," said Frank L. Collazo. "I can't emphasize that enough. Before technology, before business, comes culture."

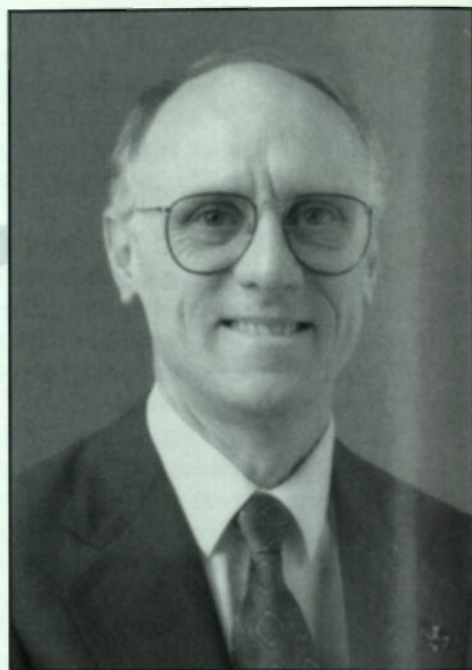
COLSA was one of three companies in the U.S. (all from Huntsville, interestingly enough) asked to submit a proposal in Saudi Arabia, Collazo said. The proposal was to be presented to a Saudi prince. Collazo's father, Frank J. Collazo, president and founder of COLSA, studied Saudi customs and culture, and the protocol for dealing with a member of the Saudi royal family before making what would turn out to be a successful presentation.

"When he got there he knew their protocol and he knew what to expect," said Collazo. "We were dealing with a prince. We knew the cultural issues. In Saudi Arabia, for instance, they spend a lot of time getting to know you. Casual time. They think it is very important to get to know you and to respect you."

"I don't think we would have been as successful (in Saudi Arabia and the United Arab Emirates) if we hadn't been sensitive to the cultural differences. No matter where you go outside the U.S., if you can't get past the cultural issues, you might as well be prepared to pack your bags and go home."

"Our business started on day one being international in nature," said Frank Pitts, whose Quantum Research does work with the United Kingdom, Germany, France, Italy, Taiwan and Israel. "Our original work had direct interfaces with ministries of defense in Europe and Israel."

A major pitfall for American companies doing business overseas, said Pitts, "is having the preconceived notion that



P. David Campbell, president, Dunlop Tire Co.

our solutions (to their problems) are the right solutions. Americans tend to come on very strong in dealing with our allies. While that may be technically correct, it's not necessarily politically correct."

A foreign government, for instance, may be more concerned about keeping an industry viable than in finding the best technical solution to a particular problem.

"You have to know what the factors are," he said. "You may find that lined up in terms of importance, politics is first, economics is second, military factors are third and technical matters may be fourth on their list. Unless you understand how the scoring is done, you may be working on the wrong factors. You need to understand the customer and what his real needs are, rather than what you might perceive his needs to be."

Another pitfall, said Bendickson, is that "we are used to doing work in this country and getting paid for it. When you do business in some other countries you may not get paid. Then you are thrust into a situation of doing business with foreign lawyers in foreign courts — and you still may not be successful."

Dynetics is being encouraged to develop an international component, Bendickson said. Ford has asked Dynetics to bid a new test reporting system on the basis of using it in Ford plants worldwide.

'You need to understand the customer and what his real needs are, rather than what you might perceive his needs to be.'

— D. Frank Pitts, '76 and '81
CEO and founder,
Quantum Research

"The product we supply to Ford, which is both hardware and software, may require us to form strategic partnering with established companies in those countries," Bendickson said. "That may be true of a lot of international development."

That doesn't mean he expects the process to be simple or easy.

"We believe proprietary rights and copyrights are very important, but it is also expensive to copyright across all of those markets," he said. "Enforcing those copyrights is difficult and expensive for a small company. The best course is to be very selective in choosing your partners. You have to get into that community and find companies that are respected."

The New Industry Mantra: Flat, Flexible, Responsive

Updated for the '90s, Ralph Waldo Emerson's maxim might say: "If a man can build a better mousetrap, his customers will want it altered to fit their specs, and they will want it delivered tomorrow."

"To thrive in that dynamic business reality, the new corporate model will have a flatter hierarchy than a typical vertical corporate structure of the '80s," says Dr. Dorla Evans. "That will help those firms be more flexible and responsive, so they can survive in a market that demands not only faster product development, but products developed for specific audiences — or for a single significant customer."

"We like going up against some of the big boys," said Frank Pitts, "because by the time they decide they're going to do something, we've got most of it done."

"One of the things that is becoming more obvious is that the life cycle of products is becoming shorter," said Evans. "You've got to beat yourself instead of just your competition. That puts a firm under a great deal of uncertainty."



military contracting into designing, integrating and installing audio systems in federal courtrooms for the U.S. Department of Justice.

"There just happened to be some of the electrical engineers we had on staff who had some background in sound system design," Pitts said. "We chose to exploit their personal experiences and bid on a couple of competitive procurements."

Responsive can mean developing products "before the customer even knew he needed it," he said. "We are already identifying the things that are going to be a 'Gotcha' before it gets to you. If you're not proactively responsive, you're liable to be left behind."

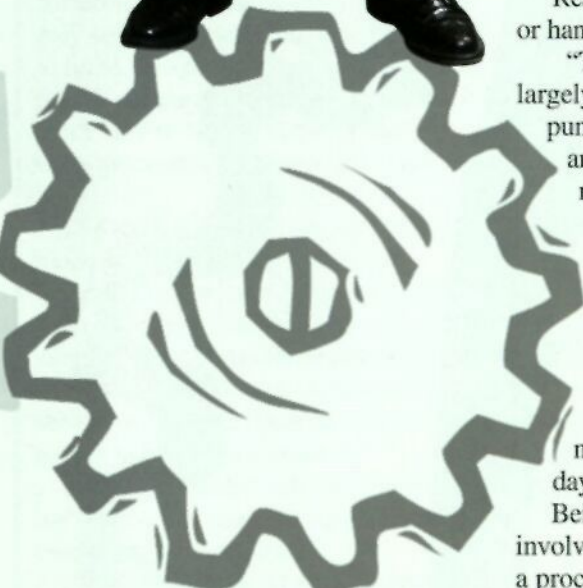


Marcus J. Bendickson, '80, president of
Dynetics, Inc.

Responsive may mean developing — or hanging onto — specialized equipment. "The metal stamping industry is largely an environment of computerized punching machines, which are faster and more accurate than manual machines," says Merrill Walker, '68, founder and president of Engineering and Manufacturing, Inc. "But we get orders for some prototype parts in runs that are too small to put on the computerized machines.

"So we still have the manual machines and we use them every day."

Being responsive and flexible may involve using multidisciplinary teams in a process called concurrent engineering. A product in development can no longer wait while it bounces from engineering to manufacturing to purchasing to marketing (and perhaps back and forth a



Flexibility can mean taking advantage of unexpected opportunities, said Pitts. For instance, Quantum Research recently branched from its original base of

COVER STORY

few times as changes are made) before manufacturing can begin.

Instead, teams with representatives from several departments study and develop new products concurrently, reducing development time and expense.

While these teams are not new in much of the R&D community (where they are often called project teams), they are making a significant impact in other business environments.

"We see increased use of teams," said Dr. Dan Sherman of UAH's Department of Management. "We see a lot of that in Huntsville. We see increased cross-functional integration, and a real movement toward concurrent engineering,

Merrill L. Walker, '68, founder and president of Engineering and Manufacturing, Inc.



'When you lay off 10,000 people, you must be getting some of the cream of the crop. That's different from culling out those who aren't pulling their weight.'

— Frank Pitts, '76 and '81 CEO, Quantum Research

which facilitates shortening of product cycle times."

Rapid product development is a key to business success, said P. David Campbell. "You can't do that without a cross functional approach. You can't have boundaries if you're going to be successful. We don't measure how many teams we have any more. That's just how we do business."

One stabilizer in a volatile business environment is an almost Zenlike business policy: Become one with your customer or supplier. That means building long term relationships which



Cynthia L. Gramm, associate professor of marketing

go beyond saving a few cents on a widget.

"We've finally started doing that," said Campbell. "That has been a significant shift in the past 10 or 15 years. Nowadays *everything* is a commodity. For the most part, pricing isn't the only issue any more. The competitive edge is what more you can offer. And price isn't it. It's relationships and bonding."

Bonding may mean a relationship where vendors develop products specific to a customer's unique needs. It may mean sharing an information system, where both companies are plugged into the same inventory database.

"If we're looking for better inventory control," Campbell said, "the most efficient way we can run our company is based on the efficiency of our distributors and suppliers."

Previously, information at Dunlop was handled on a "need to know" basis, he



Gurmej S. Sandhu, '79, president and founder, SigmaTech, Inc.

said. "Information was provided only to people who needed to know. Now, information is available to employees, suppliers and customers, unless it can be proven that the information should not be distributed."

Linking computer systems for such things as billing, just-in-time delivery and inventory creates closer relationships between supplier and user, said Evans. "Perhaps you will have fewer suppliers, larger suppliers ..."

Bonding can also mean tearing down some of the traditional boundaries between buyers and sellers.

"We see greater and greater involvement by the customer into the design and development of products," said Sherman.

"As a supplier, we are being asked to



Daniel J. Sherman, chairman, UAH Management and Marketing Department

work with (customers) to solve problems," said Marc Bendickson. "It's no longer an arms length thing. We're being asked to work with them, to integrate what we have to where they're going. We modify our product to fit their needs.

"That's a pretty new thing. They're coming in and valuing our opinions. We feel that we are an extension of their total quality process.

"On the other side, we request the same things of the people who are supplying us with services and products," he said. "As an R&D contractor, a lot of our needs can't be filled off the shelf. We absolutely are looking for people who will work with us to fill those specialized needs."

Generation 'X' & the Family Plan

In addition to a constantly undated resumé, the 21st Century corporate survival kit may include crayons, a diaper bag and — for those who buy into Generation X — a change of attitude.

With the two-wage-earner family becoming the norm, and a new generation of employees coming on board with a built-in distrust for corporate America, what's a CEO to do?

"Most of our employees come from two worker families, where they may have kids in daycare," said Marc Bendickson. "That has produced some interesting challenges. How do we structure our daily work requirements around families? This is exacerbated by the fact that 95 percent of our work is classified and can't be taken home."

"We have seen more of the need to be flexible and understanding when someone has to take time off to get a child to the doctor or to try to handle what we used to think of as personal business," said Frank Pitts. "From a management standpoint, we have tried to be very liberal in allowing people to make up hours or work flexible schedules.

"We don't have a time clock. If someone has to take a morning off, you may see that person in here on Saturday to finish up a report or polish a presentation. If people are professional, you don't have to beat on them. In some cases we wind up having to run them home.

"In the R&D world, employees have more individual responsibility for making sure, for instance, that a series of simulations are completed. The professional attitude of people shows through when you come by here on Saturday and see the people here, without somebody having to tell them to come in."

That professional attitude, however, isn't obvious in some young people just entering the job market.

"The unique aspects of Generation X are real," Bendickson said. "It's not just a hypothesis. There are different attitudes and expectations.

"Motivating that work force is not the same as motivating earlier employees. It's more difficult.

"They are career oriented and they are information rich. They are generally very competent with computer skills. They are aware of the world around them. But many of them mistrust corporations. They come pre-programmed that way.

"To create loyalty to a company," he said, "is a concept that has to be taught."

"The sophistication of employees today requires the explanation of decision-making from the top much more than in the past," said P. David Campbell. "At Dunlop, everything is built on a foundation of trust and integrity. It's a much more open environment than in the past.

"The way to deal with a lot of these issues is ongoing communication."

"We're seeing more of an attitude of, 'If someone will go generate the work, I'll be glad to get it done,'" said Pitts. "It's harder to convince this new generation of folks to generate that inner drive to create an opportunity where none existed. Some of the folks who were with me when we started the company, that was something inherent in them."

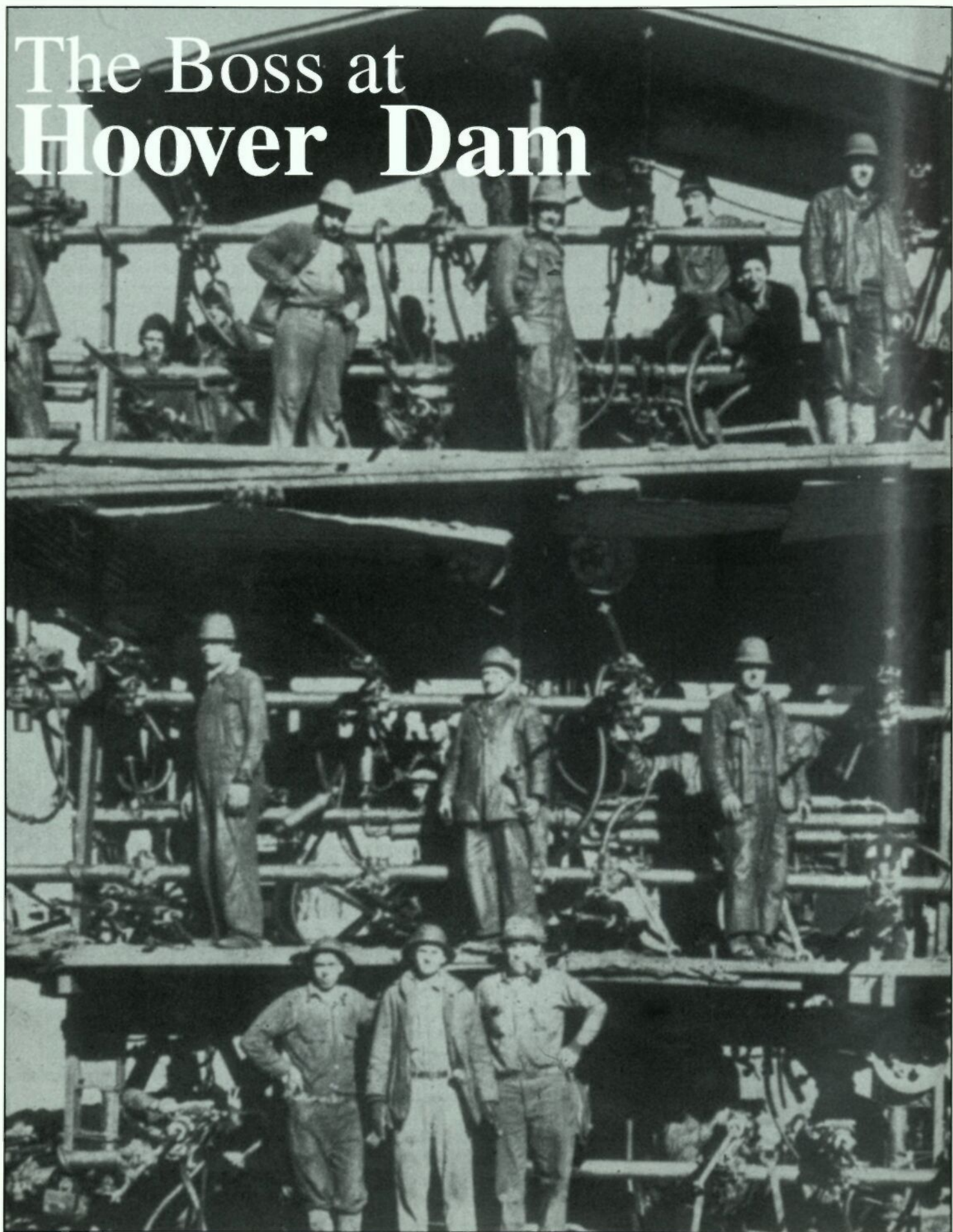
Some attitudes are shaped by the drumbeat reports of plant closings and corporate downsizing, such as the announcement that AT&T would eliminate 40,000 jobs.

"That certainly changed the attitudes of a lot of people from wanting to work for a large corporation, where there's a lot of *stability*," said Pitts. "People are seeing now that there can be security, stability and opportunity in a small company. There has definitely been a change in perspective ..."

Part of Generation X's cynicism may come from knowing that mass layoffs, such as those announced by AT&T and Apple Computer, have nothing to do with a person's performance on the job.

"When you lay off 10,000 people, you must be getting some of the cream of the crop," Pitts said. "That's different from culling out those who aren't pulling their weight."

The Boss at Hoover Dam



Many aspects of management have not changed significantly since the early 1900s. Many others have changed so much that modern workers might have difficulty relating to working conditions of that day.

Some insights into the management styles of the Great Depression can be seen in the following excerpts from the book "Building Hoover Dam," an oral history compiled and edited by Dr. Andrew Dunar, a professor of history at UAH, and Dennis McBride, founder of the Boulder City/ Hoover Dam Oral History Project.

The people quoted below were involved in what was at that time the largest construction project ever attempted.

Much like today's business environment, management and unions were at odds during the construction of Hoover Dam. While managers struggled with wages and working conditions, perspectives varied among dam workers.

Erma Godbey: "I don't think they were really unionized here. But they were going to cut the wages on the muckers in the tunnels. And they were only getting \$4 a day anyhow, which was nothing. You could live on it in those days, but you couldn't hardly. The other men that did the other kinds of work knew that if they were successful in cutting the muckers' wages, they would cut their wages too."

Tex Nunley: "It was the Six Companies workers that were striking to get a little better wages. They couldn't have had any better food. I guess it was money and maybe a little better working conditions on the job."

"They gave (government workers) shotguns and put them out here and there to guard. Don't let anyone come in or out. I was just a rodman. It was the bigger shots that had the guns."

Elton Garrett: "Management tried to be reasonable, and at times they improved conditions for the workers. They didn't give in to them and say, 'You can have all your wishes.' They didn't do that. The depression gave this whole country a climate where management could dictate terms pretty much."

Hoover Dam was unique because it also required workers to live near the site. Government engineers, like Walker Young, believed life after work influenced productivity.

Walker R. Young: "We also wanted to get the employees into a different environ-

ment. We knew it was going to take some time to build the dam. Work was to go on 24 hours a day every day of the year except a couple.

"We wanted them to forget all about the work at the damsite, what they were going through down there, and get away where they'd have a family life."

Frunk Crowe was the construction superintendent for Six Companies.

Elton Garrett: "Frank Crowe was a genius for organized thinking and for imparting organized thinking to other people. Frank Crowe knew engineering. He knew dam construction through experience. He knew how to motivate. He knew how to be friendly with the guy that was tamping the powder into that hole."

"He knew how to smile at a good gag, such as, for instance, when somebody asked him, 'What's the date that you're going to do so-and-so?' He said, 'I don't know. I haven't been to the recreation center yet to ask 'em.' This was the sort of thing he was capable of. He not only was an engineering genius, he was a people genius. That went a long ways."

Workers' benefits were issues during the Hoover Dam construction.

Harry Hall: "We worked eight hours on the job. It took about 30 or 40 minutes to get down there. You wouldn't put your gear away until after your eight hours were up. So you put in nine or nine and a half hours total. We had 30 minutes for lunch,

but we didn't always eat at the same time. It depended on what the workload was."

Leroy Burt: "State compensation was much higher in Arizona, so they always said if you got hurt in Nevada, get someone to drag you over to the Arizona side so you'd get more money."

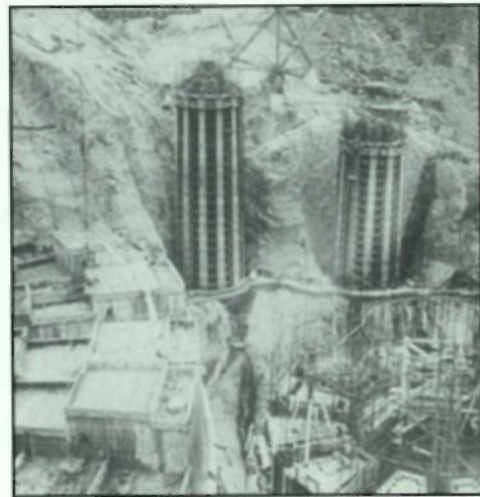
Throughout the construction, injuries, deaths and working conditions were sources of complaints. But workers feared losing their jobs and still recalled management's suppression of an attempted strike in 1931. In 1934, the IWW attempted to strike again.

Marion Allen: "They say the one in '34 was the last IWW strike. The IWW was the International (Industrial) Workers of the World. They organized a lot of stuff, changed a lot of conditions, which did a lot of good. But they were a lot of working men, and most all employees hated them."

No Attribution: "Six Companies continued issuing pink slips as the company completed its work. Workers seldom knew from one day to the next how long they would have work, and an atmosphere of uncertainty pervaded the final months of the project."

No Attribution: "The dismal economic climate of the early 1930s made it an employer's market. Despite horrible working conditions, low pay, inadequate housing in the early months of dam construction, and dictatorial control of life in Boulder City later, few workers protested. Those who did jeopardized their jobs."

No Attribution: "But the IWW remained isolated, with little support even from the workers at the dam it sought to defend. (The) failure of organized labor to affect significantly the Boulder Canyon Project curbed union influence until after World War II."





Naomi Burke, left, the 1995-96 president of UAH's chapter of Phi Alpha Theta, visits a historic site with other members of the history honor society, from left, Jennifer Bedsole Damewood, Amy Jarem, David Lescarini and Ann Brady.

UAH's history honorary rolls to 6th 'championship' in a row

A quiet juggernaut in the History Department has been rolling over its competition for more than half a decade. In October, 1995, UAH's chapter of Phi Alpha Theta history honor society received its sixth consecutive national "championship."

The award is based on the chapter's activities, which are chronicled in a yearbook. In recent years those activities have included a field trip to a Civil War re-enactment, participation in department events such as the annual history forum and social gatherings with the faculty.

"Of course, if you don't have good students, you can't win these types of awards," said Dr. Stephen Waring, associate professor of history and chapter advisor for three years. "If you don't have a good group, you can't generate enthusiasm."

"I think having strong faculty support and a strong group of members has been a major factor in our success," said 1995-96 chapter president Naomi Burke. "Because of the past success, the motivation is there to continue that success."

"Many of my students are surprised to find they enjoy history, once they come to college," said Waring. "Too much emphasis in the lower grades is placed on repetition and memorization. These students don't hear the controversy behind many historical events until they come here. Too often, history is used simply as a tool to teach citizenship and much of the conflict and controversy are left out."

Hung is honored by Royal Society

The Royal Aeronautical Society, an international multidisciplinary professional institution dedicated to the aerospace industry, has honored a UAH professor and student for their research.

Dr. R.J. Hung, professor of mechanical and aerospace engineering, and K.L. Shyu, a doctoral student, received the prestigious Ackroyd Stuart Prize for their propulsion research.

"Dr. Hung has always been one of UAH's best and most active researchers," said Dr. Lynn Russell, dean of the College of Engineering. "This is truly an honor for him and the university."

UAH's John Christy is honored by AMS

Dr. John Christy, an associate professor of atmospheric science in UAH's Earth System Science Lab, has been honored by the American Meteorological Society (AMS) for his contributions to global climate change research.

Christy and Dr. Roy Spencer of NASA's Marshall Space Flight Center received the AMS' "special award" in January "for developing a global, precise record of the Earth's temperature ... advancing our ability to monitor climate."

Using data gathered by microwave sounding units on NOAA's TIROS satellites since 1979, they calculate accurate temperature readings for almost all regions of the Earth, including the southern oceans, the Amazon basin and the sub-Saharan desert. Those are remote regions for which reliable temperature data were not previously available.

As part of an ongoing UAH/NASA project, they continue to process and publish global temperature data collected by NOAA satellites.

In 1991, Spencer and Christy received NASA's Exceptional Scientific Achievement Medal.

Sue Kirkpatrick named new dean for liberal arts

Dr. Sue Kirkpatrick, who has chaired UAH's Psychology Department for seven years, has been appointed dean of the College of Liberal Arts, effective August 17.

Kirkpatrick succeeds Dr. Jack Ellis, who served as dean for four years. A professor of history, he is stepping down to return to teaching and research.

"It's a very important responsibility and an outgrowth of my academic experience," said Kirkpatrick, who has been on the UAH faculty for 22 years. "I am pleased to have the opportunity to work with students, faculty and the community to further liberal arts education."

UAH shelves proposed merger of science, liberal arts colleges

After several months of discussion, a committee study and a faculty vote, UAH has decided that the College of Liberal Arts and the College of Science will remain separate entities.

The university began exploring a move to combine the colleges last year. A faculty committee was formed and a survey showed faculty members from the colleges had differing views. While liberal arts faculty supported the change, science faculty were against the proposed merger.

The faculty debate centered on two primary issues: undergraduate education versus graduate programs and research. Merger supporters believed that a combined college of arts and sciences would bolster the undergraduate program. Opponents feared combining the colleges would harm the graduate and research programs.

"This was a positive discussion for the university," said Dr. Samuel McManus, UAH's provost and vice president for academic affairs. "We intend to use the dialogue between the colleges to help us better serve our students and address the academic and research challenges UAH faces."



"Tony D" Deweese goes on the air from WNDA-FM

Lockheed Martin scholar rocks an engineering beat

From the time he started designing hardware as a summer high school apprentice for NASA, Tony Deweese has loved designing. That love of design led Deweese to a major in mechanical engineering at UAH.

A graduate of Sparkman High School, Deweese was the 1995-96 recipient of the Lockheed Martin Scholarship, which includes full tuition and fees. Deweese, who has a grade point average of 3.75, credits much of his accomplishment to UAH.

"The teachers here are involved with the students, and you receive individual attention to help you through a course," said Deweese. "My strong points have always been math and science, and UAH has helped me develop those studies and apply them toward my engineering goals."

Deweese's goal is to build a life around his creativity, not only in engineering but also in broadcasting. He works part time as a disc jockey for WNDA-FM. Deweese and a friend produce an alternative gospel rock show every Saturday from 6 p.m., until midnight.

"I've been in radio for over a year and really enjoy playing this type of music," says "Tony D." "I want to keep my hand in radio and use my creative talents in this field, too. I'm not sure exactly what I want to do in radio in the future, but I want to be involved with this type of music."

Deweese says he will enjoy the challenges that lie ahead in engineering and broadcasting: "You have to use your head to be creative."

Deweese is the son of James and Yong Deweese, who live in Madison.

UAH SPORTS

What A Spring!



UAH Wins NCAA Hockey Title & Gulf South Softball Crown

Everyone knew UAH's ice hockey team was going to be good in 1995-96.

It had, after all, been ranked in the top three in the NCAA's Division II the previous two years. A solid core of seniors who played in the 1994 NCAA championship series returned. We *knew* the ice hockey team would be good enough to contend for an NCAA tournament bid.

But UAH's softball team? UAH's baseball team?

What softball team? What baseball team? This time last year we had neither.

Nonetheless, Gulf South Conference (GSC) opponents learned quickly that the Chargers meant to hit the ground running in their inaugural seasons.

Led by Coach Les Stuedeman, the Lady Chargers won their first six games — *ever* — before losing.

The baseball team, led by Coach Bobby Pierce, lost its first two games. No surprise. Then it went on an eleven game winning tear.

This is a good way to kick off an inaugural season.

When the 1995-96 school year ended, the UAH athletic program had put together an unprecedented one-year record of accomplishment:

- One NCAA Division II ice hockey championship;
- One Gulf South Conference softball championship;
- One trip to the NCAA's South Region softball tournament;
- One NCAA South Region Coach of the Year award for Stuedeman, who was also named GSC Coach of the Year;
- One GSC East Division baseball title;
- Six players on first-team All-America teams, two for softball and four in ice hockey. One hockey player was also named to the NCAA's second-team All-America squad;
- Four players on NCAA All-Region teams, two each in baseball and softball;
- One NCAA Academic All-American from the cross country team;
- Fourteen (*Count 'em!*) players earning All-GSC recognition, one each in men's and women's basketball, three in women's volleyball, four for softball and *FIVE* for baseball.

• One GSC-East Division Coach of the Year Award for UAH's volleyball coach, Laura Taube.

• And assorted all-tournament and other individual awards and honors.

"It has been a great year," said Athletic Director Jim Harris. "The staff decided that we want to compete for championships and start building greater national recognition. With our success this year, we feel that a first step has been taken."

ICE HOCKEY

A two-game sweep of the Bemidji (Minnesota) State Beavers in the NCAA championship series gave UAH its first-ever NCAA national crown.

Two-time All-America goalie Derek Puppa accepted the championship trophy before a raucous Von Braun Civic Center crowd. Puppa was nearly flawless in the NCAA tournament, giving up only one goal in 49 shots.

"He is the premier goalie in hockey," said Bemidji Head Coach R.H. Peters. "He was our nemesis all weekend."

The tournament was a rematch of the '94 series, which Bemidji won in a "mini-game" overtime period.

"The seniors have been the backbone of the team," said Ross. "We got a good taste in '94 and we got hungry. We kept thinking about that and wanted to do it."

"This victory takes away some of the sour taste of 1994," said UAH senior center Wade Tulk. "We've come together like a family. I've got 25 brothers in this locker room."



SOFTBALL

Opening round losses in the NCAA South Region Tournament cannot lessen the softball team's remarkable accomplishments.

Starting from zip, the Lady Chargers put together a 42-21 season record, and swept through the GSC conference championship tournament — UAH's first



GSC title in any sport. Pitcher Wendy Hurst (40-19) set an NCAA record for innings pitched in one season: 411. She may also make it into the NCAA record book for games played, games started and complete games.

"It's very exciting that we did so well," said Stuedeman. "I'm excited about the honors and attention, but we want more. Our goals for next year are much higher."

BASEBALL

The baseball team rocketed into the upper echelons of college sport, spending six consecutive weeks in the Top 10 in the nation.

The season ended with a heartbreakingly close 13-12 loss to top ranked Delta State in the championship game of the GSC tournament. Despite ranking eighth in the nation with a 37-16 record, the Chargers' Cinderella season did not include an NCAA tournament bid.

"We were extremely disappointed that we didn't receive a bid," said Pierce. "Nonetheless, there were many, many positive things (from the inaugural season) on which we can build. We owe an awful lot to the young men who had the courage to come to a first year program and perform the way they did."

SOCCER, BASKETBALL, ETC.

The Charger soccer team enjoyed its best season since UAH joined the NCAA, finishing 12-4 overall. The team was ranked in the top ten in the region for three weeks, placing as high as ninth. Soccer will be a GSC sport in 1996-97.

The women's volleyball team finished second in the GSC, while the women's basketball team enjoyed a winning season (15-11), only one victory away from earning a bid to the GSC tournament.

The men's cross country team finished sixth in the NCAA South Region; the women's cross country team was seventh.

"This was a benchmark year for us," said Harris. "We'll compare everything we achieve from now on to this 1995-96 season."

ALUMNI NEWS



A distinguished group of students, scholars, alumni and friends of UAH were honored at the 21st Annual UAH Alumni Association Awards Celebration on May 18 at the Von Braun Civic Center. Receiving awards were, from left, Carroll D. Johnston, professor of electrical and computer engineering, Distinguished Research Award; Robin B. Buckelew, '77, director of engineering for the U.S. Army Space & Strategic Defense Command, Outstanding Alumni Award; Jana Jobes, Outstanding Student Scholar; Carolyn White, associate provost, Distinguished Faculty Award; Doug Ross, ice hockey coach, Distinguished Staff Award; Jan Johnson, who accepted the Leadership in Government Award on behalf of U.S. Senator Howell Heflin; and, SCI's founder and president, Olin B. King, Distinguished Civic Service Award.

••• '60's & '70's •••

MARGARET B. SMITH, '69, and MAURICE R. SMITH, '72, of Cleveland, Tennessee, own American Analytical Laboratories, contract consultants for EPA projects. They have two children, Jeff and Katrina.

CHARLES A. LARSON, M.D., '72 and '79, has a family practice in Guntersville. He recently retired as a captain after more than 22 years in the U.S. Navy and Naval Reserves. He and his wife Beverly Eason Larson live on Lake Guntersville. They have three children.

EVADNA EBNETER, '74, of Peachtree City, Georgia, is a student in the master gardener program at The University of Georgia. She and her husband have three sons, Stewart, Jr., Scott and STEPHEN, '84, who received his BSBA from UAH and works at Intergraph.

JOSEPH CORDERO, '75, of Lilburn, Georgia, is associate pastor of youth ministries at Shallowford Presbyterian Church. In addition to his mission work, he is also active in Habitat for Humanity. He and his wife Melinda have a two-year-old son, Nathanael.

RONALD C. RUBERY, '76, is an auditor for the U.S. Commerce Department's Office of Inspector General in Atlanta. He and his wife Elizabeth live in Stone Mountain, Georgia.

THOMAS STRICKLAND, '77, of Roswell, Georgia, is a futurist for Byers Engineering, where he designs information

and telecommunication systems with fiber optics.

ARTHUR COLWELL, '78, of Lake Jackson, Texas, is an operational director for BASF Corp. Art is a volunteer in a Houston public schools reading program, with the Boy Scouts and with Brazoria, a Houston-area organization that helps handicapped children. He and his wife Anita have a son, Paul, 10.

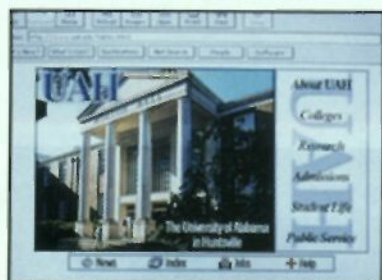
JILL OSBORNE ADAMS, '79, of Athens, Alabama, was named the top new vocational teacher in the U.S. by the American Vocational Association for 1995-96. She won national and regional competitions after earning statewide recognition from the Alabama Vocational Association for her work at the Limestone Area Vocational and Technical School in Athens. She also works part-time as an emergency room nurse at Athens-Limestone Hospital. She and her husband Randall have two daughters, Jennifer, 10, and Rebecca, 7.

••• 80's •••

EDWARD SASS, '82, of Irving, Texas, is that state's regional surveyor for the Commission on Office Laboratory Accreditation. A private pilot and scuba diver, Edward has one daughter, Kristen, 4.

ALLEN RICHARD TINNIUS, '82, of Douglasville, Georgia, is an assistant analyst for Georgia Power Co.

LAURA PULLMAN, '83 and '87, of Dacula, Georgia, is president and owner of Quality Research Associates, Inc.



How's everything with you?
If you have news about your life, career or family, please contact Teresa Shurtz, our alumni news coordinator, at:

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e-mail:
Shurtzt@email.uah.edu

web address:
<http://www.uah.edu/alumni>



BENITA BROOKS, '92, of Huntsville, was elected Miss Alabama USA for 1996. She is a systems engineer at Intergraph.

MITCHELL L. RAMSEY, '83, of Powder Springs, Georgia, is a supervisory accountant for the U.S. Federal Deposit Insurance Corporation in Atlanta. He is also assistant treasurer for the Atlanta Caribbean Association. He and his wife Yvonne have one son, Mitch, Jr.

STEPHEN BUEL SMITH, '84, of Mableton, Georgia, is an engineer for Bennett Pump Co.

MATTHEW PETERSEN, '89, of Wichita, Kansas, is an engineer for Cessna. He is working toward an MBA from Wichita State University.

••• 90's •••

MOLLY GARRISON, '90, and her husband Doug live in Alpharetta, Georgia. They had a baby girl, Jessie Leyla, in June.

JOHN ORTIZ, '90, is a senior evaluator for the U.S. General Accounting Office in Atlanta. He is active in "Hands on Atlanta," an organization that builds or refurbishes homes for the poor, and maintains or refurbishes public schools.

JAY BRENT ROMINE, '91, of Lilburn, Georgia, received his Ph.D. in electrical engineering from Georgia Tech in December. He is employed at Tech as a graduate research assistant. He and his wife **REBECCA NORRIS ROMINE, '90**, have a new baby boy, Jonathan Brock. Rebecca is a computer scientist on the research faculty at Georgia Tech.

VICKY GROCE, '92 and '94, of Fayetteville, Tennessee, received the



While in Taiwan earlier this summer, S. T. Wu, professor of mechanical and aerospace engineering and director of CSPAR, had a "mini-reunion" with several UAH alumni. Pictured are (back row left to right): Yin-Hsiuing Pan, ECE; James Yang, ECE; Aichyun Shiaah, MAE; C. L. Chien; Ming-tsun Sun, MAE; Fu-shen Weng, MAE; Pictured (front row left to right): Yu Chung Tsai, MAE; Chin-chun Wu, MAE; and Mai and S. T. Wu.

Samuel P. McManus, UAH provost and vice president for academic affairs, right center, chats with UAH alumni Lou Duckwall, '77, left, and Teresa Wright, '78, at a Dec. 11 reception at the swissôtel in Atlanta, Georgia. About 50 UAH alumni and friends of the university attended the reception, which is the first step toward organizing an Atlanta chapter of the UAH Alumni Association.



Tennessee Hospital Association's highest honor — the Nurse of Distinction Award in 1995. She is director of nursing at the Lincoln Regional Hospital and the nurse practitioner at a family clinic in Petersburg, TN. She and her husband Steve have two sons, Justin, 13, and Waid, 16.

RICK MECKLENBURG, '92, is chief forecaster and weekend weather anchor for WAAY-TV. He and his wife Karen live in Huntsville.

DAWN CROSS, '94, of Huntsville is a materials engineer at NASA's Marshall Space Flight Center, where she conducts environmental assessments of space shuttle payloads. She is active in the National Society of Black Engineers, Liberty P.B. Church and Alpha Kappa Alpha sorority.

LISA WATSON, '94, of Huntsville, is a facility integration engineer at NASA's Marshall Space Flight Center, where she works on the integration of SpaceLab missions. When she isn't taking care of her six cats, Lisa stays busy with hiking and aerobics.

PAUL L. LUZ, '95, of Huntsville, is an aerospace engineer in the Program Development Directorate of NASA's Marshall Space Flight Center. He is active in Big Brothers/Big Sisters of North Alabama.

UAH's Alumni meet in California and Texas

HOUSTON, Texas — UAH President Frank A. Franz was welcomed to Houston on January 8 by astronaut Jan Davis, '83 and '85. He was treated to an afternoon tour of NASA's Johnson Space Flight Center. Space Center Houston was the site of an evening reception for UAH's Houston-area alumni and friends. The reception was hosted by Dr. Franz, Dr. Davis and Ms. Gwen Artis, '86.

SUNNYVALE, California — On July 17, UAH Provost Sam McManus, Vice President for University Advancement Barrett H. Carson, and Director of Development Robert E. Curtis hosted a dinner at Faz Restaurant for UAH alumni and friends in the Silicon Valley area.

Keep us updated so we can keep you updated!

Take advantage of our Alumni Association home page for an easy update of your biographical information so we will have your current address for future UAH mailings. Also, let us know of changes that may be taking place in your life, such as marriages, births, job changes, awards received, etc.



Coping with Change is Key for Commerce

By Mark C. Smith

In the 1980s, if you wanted to improve productivity and quality there supposedly was an easy answer: emulate the Japanese.

Much in the way of quality control, incremental process improvement, and employee involvement were beneficial.

Morning calisthenics in the company parking lot proved a dismal failure.

But, like the weather, management ideas have a season.

It's not that the strategies of the Japanese or those pitched by management gurus like Deming or Peters are wrong. What managers have learned over the past 25 years is that none of these strategies have a corner on the market.

In fact, today's issues are much the same — with the exception that the power relationship between the buyer and seller has shifted dramatically in favor of the buyer. The manager in the 21st century can't ignore the past nor simply trust the latest in management techniques to guarantee business success.

What issues will face the 21st century manager?

First, it may sound trite and probably overdone, but the ability to manage change will continue to be a part of business life. If the past is any indication of the future, we can be sure of a changing environment.

Today, we see the management of change as a key. It isn't an end all. But it does prove — at least this time around — that business recognizes there is no one approach to effective management.

It also suggests that management must maintain responsibility for a company's overall direction. It can't be delegated.

Second, open, free competition has radically changed the business environment. We continue to have enormous restraints of trade, especially when we deal internationally.

However, impediments to trade have dropped so significantly that it truly is a new world for many industries which have never before had foreign competition or were not subject to strong competition in the past. Whole industries have been transformed from a noncompetitive environment to a competitive environment.

The buyer is now the king. Consumers are the dominant players in the buyer-seller relationship. The power that used to reside with the manufacturer has totally shifted. Manufacturers used to consider their market monolithic, where one product was good for all.

That's changed. Today we see that very large markets have divided into a large number of submarkets. Suppliers and manufacturers have had to learn that the economies of scale can be a detriment and that the ability to customize down to a single unit is a must.

Third, management of information will continue to change drastically. Information has always meant power. In the past it could be controlled and was obtainable only by a small group in a company.

The shift in the computer industry from mainframes to personal computers and today's rise of the Internet have drastically shifted the availability of knowledge and power from executive management to all levels of the company.

This dissemination of knowledge throughout a company can have a tremendous impact on productivity. We have seen a general decline in the number of unskilled workers, while the percentage of knowledgeable employees has grown significantly.

Unfortunately, we see a spreading gap between those willing to explore and use this information and those unwilling to learn.

Sadly, this corporate phenomena will likely be seen in society, where the differences between these two groups will likely lead to future problems.

These three issues require managers to come equipped with two things: a broad education and an excellent work ethic. The future manager must embrace both to be successful.

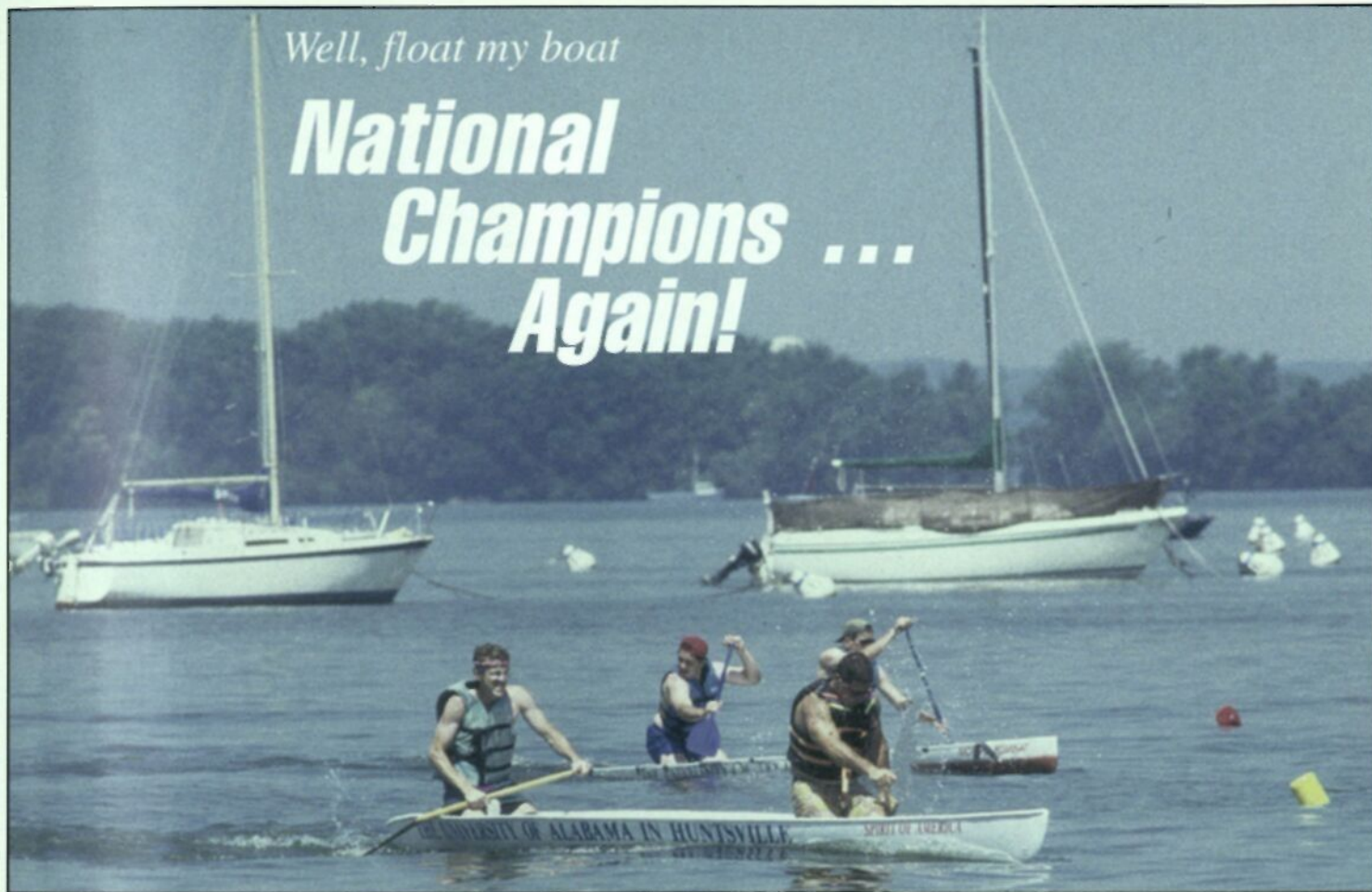
Information that is becoming more easily available and certainly more complex requires an education which allows a manager to process and decipher information. The breadth and extent of knowledge needed to be successful is inherently greater.

Despite this world of dynamic change, the one constant, unwavering quality for managers and workers alike will be fashioning an outstanding work ethic. Regardless of our knowledge in a highly competitive world, the work ethic will continue to be vital to a company's success.

(Mark C. Smith is chairman and chief executive officer of ADTRAN, Inc., a Huntsville-based corporation which employs more than 500 people and had sales in excess of \$180 million in 1995. He serves on The University of Alabama Huntsville Foundation and on the advisory council of UAH's College of Administrative Science.)

Well, float my boat

National Champions ... Again!



Jeff Lindner, above left, and Kirk Smith paddle UAH's canoe to a commanding lead in the men's sprint of the national concrete canoe championships, then collapse, below, after winning. Chloe Roberson, facing camera right center, gives a congratulatory hug to Leah Tracy after Tracy and Leslie Roberts, in canoe, finished second in the women's 500-meter race. Members of UAH's concrete canoe team, bottom, try

to strike a casual pose as "coach" John Gilbert paints on a special polymer mixture that reduces drag between the boat and the water. The UAH team took polymers developed by the U.S. Navy for use on submarines, then improved those polymers for the concrete canoe races. Other teams used such high tech materials as soap from public restrooms in a vain attempt to achieve the same effect.

UAH Wins Third Concrete Canoe National Title

For the third time in four years, UAH has captured the concrete canoe national championship sponsored by the American Society of Civil Engineers.

Paddling a 78-pound, 21-foot-long canoe made of concrete, steel and plastic mesh, the UAH team won three of five races and the oral technical presentation to beat 26 other regional winners from across the U.S.

Michigan State finished second, followed by the University of California at Berkeley, the defending champions from the South Dakota School of Mines and Clemson University.

UAH won the men's sprint and distance races, plus the coed sprint. It finished second in the women's distance race and third in the women's sprint. Races were on a lake near the host school, the University of Wisconsin at Madison. UAH won \$5,000 in scholarship money donated by MasterBuilders, Inc.

"Our boat this year is longer than our '94 canoe," said Chloe Roberson, a senior electrical engineering major who paddled for UAH. "But it's also about five pounds lighter than the boat we used to win the national championship in '94. And we did this with 'traditional' materials."

When UAH won the 1993 and 1994 national championships, it paddled a concrete canoe reinforced by a carbon graphite composite developed by NASA. That material was outlawed from competition last year, sending UAH's student engineers back to the drawing boards.

The solution was a 3-part frame sealed with a concrete-latex mixture so light, said Dr. John Gilbert, the team's faculty advisor, "a solid reinforced section with the steel in it will float by itself."

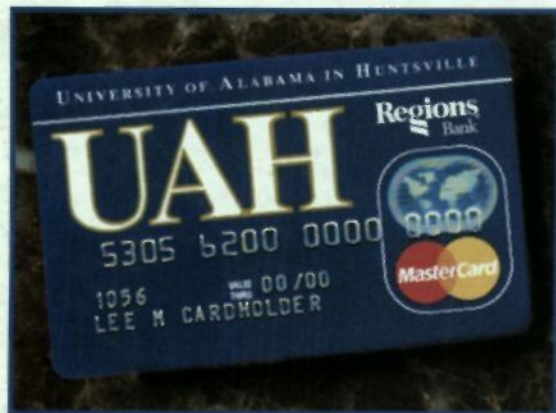
"It's a sweet victory," said team captain Jeff Lindner. "This year we were able to set some people straight and show them that NASA doesn't build our boat."



Photos by Bob Rashid, Madison, WI

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Business Phone	No. of Years	
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