The Eta Kappa Nu Garden
Gamma Omega Chapter, Mississippi State University

Also Featured: Industry Perspectives—How the Corporate Environment is Changing for Engineers
INDUSTRY PERSPECTIVES

How The Corporate Environment Is Changing For Engineers

by Michael J. Friduss

Vice President
Customer Sales and Service
Michigan Bell Telephone Company

Editor's Note: This paper is a transcript of the talk entitled "How The Corporate Environment Is Changing For Engineers," presented by Mr. Friduss as a representative of Michigan Bell and a volunteer for National Engineering Consortium (NEC) at the June 1981 Meeting of The American Society for Engineering Education in New Orleans. It is printed here with the permission of Mr. Friduss and NEC.

I welcome this opportunity to talk with all of you today and to offer my views on the changing corporate environment as it relates to your engineering curricula. Your invitation prompted two reflections. One was that I talked with some of you about the subject of Business Ethics in October, 1988 at the National Communications Forum in Chicago; and, to recognize that an enormous amount of change has occurred globally...and corporately...just since that discussion three years ago.

The pace of change is indeed mind boggling, and it is occurring in an accelerating way as both the rate of change and the amount of change continue to increase. Last year always seems placid compared to this year.

My second reflection was to think back to my graduation in 1964 as an engineer from the Illinois Institute of Technology. Was I ready to enter the business world— to play my trade? I certainly believe I was.

Did my college education fully prepare me for my career in the telecommunications industry? Absolutely not, but I doubt that it was ever intended to provide such complete preparation. In reality, there is no way that I could have been "fully" prepared for all that has transpired throughout my career.

Think back with me to 1964, my point of reference (although in my industry I suspect these comments would pertain as far forward as 1984, perhaps in some cases as far forward as 1989).

In 1964, the American business agenda was significantly different; and because it was, what our graduates expected, what their potential employers expected, and what was taught in our college classrooms had a different focus than, ideally, it does today.

When it came to our customers, what mattered was whether or not our company had the right product. That was pretty much it. The majority of our engineering talent was focused on making the product...or designing a new product that, hopefully, the customer would buy.

In 1964, the customer was very far removed from our engineering concerns. Most engineering grades were not going into sales or marketing; so, from their perspective, as long as the product "worked" and got to the person who needed it, that was all that mattered.

Quality was not an issue that was defined the way it is today. Our definition of quality was very narrow. It dealt with internal measures of specific product performance. It had nothing to do with the process of quality or how it might affect the customer.

In the early sixties, it wasn't a matter of whether quality met the six sigma criteria of Motorola...or at best, quality at that time in my company may have been "1 sigma."

Also in 1964, we had only begun to scratch the surface of technology, particularly in my industry. Many companies were highly skeptical, not understanding the efficiencies technology could bring to their operations, and clearly not understanding the benefits technology could bring to their customers.

Then, business did not think about "cost" the way we do now. Frequently, in our industry we did not think about total cost at all. And when we did, we were really thinking in "cost-plus" terms. That is, our actual cost and what amount we should add to guarantee our profit.
When we wanted to make our ideas stick, we communicated our expectations in an autocratic, top-down fashion. We were highly structured with clearly defined job titles and responsibilities between management and labor.

Few of us were enlightened, and even fewer of our employees were. Our approach was very much the same as the one used by the company, just think how much has changed. For today's engineering students, much more sophisticated, getting a job is frequently difficult—1991 college graduates faced the weakest job market since World War II. Also, once hired, the expertise required of engineers is now much greater, much sooner.

Companies such as Michigan Bell, Ameritech, and Northern Telecom must be "picky." Perhaps more than at any time before, we know the specialist expertise and leadership skills we need from each of our employees; and we interview candidates until we find the people we need.

These reflections are at the foundation of four main ideas which I will share with you today; and as you'll see, the one overriding observation I want to emphasize is that I do not think my views are unique.

My discussion of business leaders in myriad industries suggests they face similar challenges of success—and even survival.

In fact, recently one of my general managers attended the four week Executive Education Program at the University of Michigan. The seminar had 36 students representing 35 companies from 13 countries.

Commenting on his experiences, he said, "Good news The kinds of changes Ameritech and Michigan Bell are making to become more competitive and successful are right on track. The bad news: Every other company is doing the same thing.

During the past two and a half years, Michigan Bell has embarked on a major initiative to "reinvent" their environment—to change the way we operate, the way we think, and the products we sell. Frankly, we had no choice but to do so. After decades of operating as a monopoly—even in the past two years after divestiture, the competition started to hit home. We began to lose market share in nearly all of our product lines. Customers expected innovations to be available in areas significantly change in areas of price and service, and quality.

By 1990, new competitors entered the fray, as well as small niche players. Also, regulatory and legislative issues, long buried in government bureaucracies, have moved to the forefront of public debate.

Advanced communication technology has become more accessible, faster. Before the personal computer, smart phone, fiber optics and digital technology are changing the infrastructure of our world.

Employees now want, and need, more responsibilities, and freedom to make responsible decisions at all levels. It is not as if we woke up one morning and said: "Okay, we're bored, let's change." Nor could we point at any one event and say, "that's the crisis that changed our way of doing business."

Rather, all of these events have turned into a "crisis" at the same time. The supportive effort is really our "crisis." One that has impacted the re-thinking of our business.

Like many other companies, we set a new course for ourselves expressed through a composite of statements in our mission restate what we expect Michigan Bell and Ameritech to do.

Now granted, it is not all that different from the statements in our mission. The percentages of 90 percent of America's competitive leaders. The key for us to understand is the significance our mission has as you prepare our future leaders to enter this brave new world.

Without spending time on every one of the lines of actions, I will touch on four key points that will have the most impact on our future. There are:

- We will provide service to all customers on their terms—and beyond their expectations.
- We will be "the quality people." We will do every job right—the first time—every time—for every customer.
- We will keep our unit costs lower than our competitors.
- Every employee will be empowered to make decisions with confidence and authority that are in the best interests of customers.

Now consider each of these observations as they relate to the engineer.

First, we will provide service to all customers on their terms—and beyond their expectations. For more than a year, we defined customer service as a monopoly. It was our responsibility to meet the expectations of our customers just enough to prevent the customer from complaining to the management commission.

However, competition now demands that in the '90s and beyond, exceeding customer expectations is the key. Competition has forced us to listen to our customers. When we do not meet the expectations of our customers, we over-promise to our customers, and the equation for success has been redefined.

Today, just meeting customer expectations does not provide any competitive advantage. What many customers are paying for is the job of exceeding customer expectations... as well as who exceeds them the most. Exceeding them requires that we really understand the expectations.

One win—what we need to find ways to improve our current services... to do the same quality job in 3 days as it did in one.

Engineers are the ones who need to anticipate and plan for these changes. At the same time, engineers can learn even more about the customers.

As part of their orientation training, Electronic Data Systems (E.D.S.) follows a policy that requires new employees to work at its customers' actual facilities for 12-18 months before beginning their regular assignments, including engineer- ing assignments at E.D.S. Clearly engineers need to feel as comfortable dealing with customers as they do with fellow engineers.

This connection with the customer reemphasizes another important job point. In a competitive environment, the customers' expectations will forever increase. Combined with the competitive nature of exceeding those expectations, a never ending cycle of continuous improvement has begun. And that is why it is absolutely critical that we really know the customer and make continuous improvements if we want to win.

Continuous improvement has everything to do with quality, which is the second main idea from our mission that I want to address. Our mission says: We will be "the quality people." We will do everything right—the first time—every time—for every customer.

I will be among the first to admit that "quality" is one of those words that is being thrown around a lot these days. When I speak of quality, I am talking about a systematic, comprehen-

hensive, and structured effort in the continuous improvement process. For our part, it is a transformation of the way business is done. And, though we are learning, to a great start, it will take us years just to get into the mainstream.

It requires that we identify the customer expectations and establish a competitive rate. Policy. Our definition of quality insists that we introduce new products and services and that we continuously improve them.

Four principles guide our quality efforts:

- Respect people.
- Put the customer first.
- Manage by fact, not by position.
- And "plan-do-check-act," or in other words, plan what to do. Do it. Check what we did. Act to prevent error or to improve the process, (standardize).

When it comes to quality, frankly we are behind where we should be. We need to be more competitive and skilled at implementing the continuous improvements. At the same time, we must be continuously improving our quality measurements... to be more aware of our strengths and weaknesses from the customers' viewpoint.

That is one way in which engineers can really help us. Within the curriculum, engineers must be exposed to the techniques that require quality measurements... and be able to apply that knowledge in meaningful ways.

Quality also requires that we build better, more efficient and virtually "human-proof," defect-free facilities. For example: Today, we average 30 troubles per 100 customers per year. By the year 2,000, we think we will need to raise that number to no more than 12, perhaps even less. When the network does fail, back up systems, transparent to the customer, must kick in.

Actually, from a quality standpoint, customer expectations will determine our financial level, and from a financial standpoint it is important to our suc-cess. Another lesson we are learning.
ing is a side benefit of quality is that it lowers our overall cost of error. It is in our financial interest to do it right the first time.

And that leads us to the third element of our mission: We will keep our unit costs lower than our competitors, because, as we see it, there are only two strategies that can cause a company to succeed in a competitive marketplace.

One is to offer a product that is truly differentiated and distinct from the rest. Then people buy what you have to offer and pay what you ask because they cannot get it anywhere else. Companies with products such as these are hard to come by... Walt Disney Productions with Disneyworld and Disneyland had it for a while, but today even they have formidable competitors. Also, 3M’s "sticky note" product line comes close. Then there are imitators. So, 3M keeps improving, offering more variety to further differentiate their product from the rest.

Unfortunately, the product differentiation strategy is not one we can depend on for success, because we are not that unique. That is where the second alternative comes in... it has to do with unit cost.

As you know, unit cost equals total cost divided by volume. The lower our unit cost, the higher our margins or the better our ability to lower our prices. The company with the low unit cost will not necessarily win, but the company with a high unit cost will more certainly lose.

To lower unit costs, we know we need to either decrease our total cost or increase the volume or both; and we know that we have devoted too much attention to decreasing the cost and not enough to increasing the volume— or sales.

Now, sales is a territory enginee...
TRACY WALLEN WINS NORMAN R. CARSON AWARD AS OUTSTANDING EE JUNIOR

by Mike Schoenfelder

Tracey Wallen

Each year Eta Kappa Nu honors a junior in electrical engineering for his or her leadership abilities, scholastic and technical achievements, and service contributions. This award, the Norman R. Carson Outstanding Electrical Engineering Junior Award, was established by Mr. and Mrs. Carson to recognize the student's ability to lead, persuade, and influence the actions of others, as well as to recognize his or her diligence, intelligence, and technical competence. The Lone Star HKN Alumni Chapter of Austin, Texas, administers this award and received many, many outstanding applications. After a long night of careful consideration and tough choices, a winner, two runner-ups, and three honorable mentions were selected. The winner of the 1990-91 award is Tracey Lynn Wallen (Delta Pi Chapter, Colorado State University).

Runners-up were Chi Chao Chang (Gamma Iota Chapter, University of Kansas) and Denise Michelle Roca (Beta Omicron Chapter, Marquette University). Elliot Horner (Gamma Chapter, University of California) and Anil N. Narwani (Epsilon Kappa, University of Miami), and Paul D. Anderson (Epsilon Rho, Tennessee Technological University) received honorable mentions.

Tracey Wallen is a prime example of the type of student that the Norman R. Carson award was designed to honor. Not only does she combine wide-ranging leadership roles with strong academics, she mobilizes her talents to help those around her. According to Dr. Jorge Aunon, Head of the CSU Department of Electrical Engineering, "Tracey is a bright, hard working student who has shown admirable talent as an electrical engineering student."

Tracey has organized or participated in numerous service activities in several organizations while maintaining a 3.84 GPA. In Eta Kappa Nu, where she held the Corresponding Secretary position, Tracey was a member of the Adopt-A-Highway Committee, collected coupons for Ft. Collins' homeless, and worked on two Public Service Company projects. The first project involved compiling a library of research on the effects of low frequency electromagnetic waves on humans. The second project consisted of the programming, design, and interfacing of a mechanical bicycle with a computer graphics system.

In Tau Beta Pi she was Chairman of the Service Committee, and in the Sophomore Spores Honor Society, she repaired old toys for Christmas presents to needy children. As Vice President of IEEE Tracey oversaw all the committees in addition to organizing a Thanksgiving food drive, coordinating departmental technical seminars, and planning the 1991 Student Professional Awareness Conference (S-PAC). She is also a member of the Society of Women Engineers, Alpha Lambda Delta, and Phi Eta Sigma.

Tracey serves on the EE Department Undergraduate Curriculum Committee where she helped design a new undergraduate brochure. As College of Engineering Tutor Coordinator, she was responsible for the organization of all College of Engineering Tutors as well as serving as primary EE tutor herself. "Because of her excellent scholastic background and her ability to work well with students," Dr. Aunon selected her as 1991-92 EE Engineering Peer Advisor.

Tracey is currently a Senior Research Assistant at CSU and over the last several years has held numerous summer and part-time jobs. She has received an Outstanding Achievement Award in Foreign Language (German) and various national piano awards. In her spare time, Tracey participates in football, volleyball, water polo, bridge, tennis, swimming, golf, skiing, and camping.

In his recommendation letter, Dr. Aunon writes, "As you can see by both her scholastic and personal achievements, Tracey is truly an exceptional person deserving of such recognition as the Norman R. Carson Award for Outstanding Electrical Engineering Junior." The Lone Star HKN Alumni Chapter wholeheartedly agrees. Congratulations Tracey!

Chi Chao Chang, runner-up for the Carson Award, has kept a perfect GPA of 4.0 while serving as Corresponding Secretary of HKN, Vice-President of IEEE, Treasurer of the Luso-Brazilian Students Association (LBSA), co-founder of the KU Ping Pong Association, and Captain of the LBSA soccer team. Since being selected for HKN membership, Chi Chao participated in several departmental and community service projects. He is also a member of Golden Key Honor Society and has been elected to Mortar Board College Senior Honor Society. During 1991-92 he will serve as Chair- man of the HKN EE project for the annual Kansas University Engineering Exposition and as Cataloguer for Tau Beta Pi.

During his junior year, Chi Chao was a Resident Assistant for KU Student Housing and received a Certificate of Appreciation for his outstanding service. He has worked on two technical projects: "A Study of DSP Models for Queueing Networks," and "Intelligent Satellite Classification," a NASA sponsored project. After graduation, Chi Chao plans to pursue a MS/EE followed by a PhD. His specific research interests are remote sensing and control systems.

Denise Roca, also runner-up, has a 3.9 GPA. She served in several official positions for Alpha Omega Epsilon, a social engineering sorority. In Tau Beta Pi, she was Chairperson of the Entertainment Committee for Spring 1991, tutored once a week, and was elected Vice President for 1991-92. Also, Denise is serving as Vice President of the Alpha Sigma Nu Jesuit Honor Society and as President of the Engineering Knights Honorary Organization during 1991-92. She has won College of Engineering Outstanding Student awards as well as several scholarships in both her freshman and sophomore years. As part of her General Motors Scholarship, Denise worked as a summer intern at Delco Electronics where she developed cost of ownership models for the purchasing department. She has also worked in the Mayo Clinic Radiology Department and has tutored high school students in mathematics.

For relaxation, Denise plays in the Marquette University Orchestra and participates in intramural basketball and volleyball. She hopes to pursue her interests in design and quality assurance in either graduate school or industry.
Anecdote: A NIGHT IN MINERALNE VODEH

by George W. Swenson, Jr. © GWS, 1992

The National Academy of Sciences had sent me to examine the world’s largest optical astronomical instrument, as part of a cultural exchange program with the Academy of Sciences of the U.S.S.R. It was 1976, and though the giant 6-meter reflecting telescope had been erected on a Caucasus mountaintop a year or so earlier, little had been heard in the West of its performance characteristics.

I left the Academy delegation in Moscow, and headed for the mountains of southern Russia, attended by a retinue including my wife, Janice, interpreter Natasha from Moscow and interpreter Alan from Washington. I felt like a celebrity. While two interpreters seemed a bit like expensive overkill, we were grateful for their expertise and their unfailing good humor in the face of provocation. Alan and Natasha quickly became good friends. They had several languages in common and were constantly joking and chatting in one or another dialect. Janice, a small, circumspectly referred to them as the Katzenjammer Kids.

Our route took us by air from Moscow to the regional airport of the north Caucasus, Mineralne Vodeh (Mineral Waters), thence by car many hours through the night to the observatory near the village of Zelenchukskaya. The official visit occurred as scheduled, though not quite with the expected outcome; perhaps that would be worth another reminiscent yarn or two, eventually. In any case, after a couple of days we reversed course, driving back to Mineralne Vodeh to be ushered to our seats in the plane ahead of the other passengers. American visitors were clearly few in this remote provincial city and we received special treatment. In part this may have been because we carried credentials from the prestigious Akademia Nauk (Academy of Sciences), in part because the authorities wished to isolate us from the other passengers.

We reached the air terminal in early evening, eluding our way through a dense crowd in the huge waiting room. Apparently there was very bad weather to the north, and crowds of passengers were delayed at this junction of many air routes. And what crowds! The huge hall, the size of two basketball courts, was packed with colorful people from several republics. Every seat was occupied and every square foot of floor filled with a sitting or recluent figure. Families in exotic dress, probably from Central Asia, brewed tea over alcohol stoves or slept on quilted mats. The people were obviously uncomfortable, and there was a loud background of querulous voices.

We were heading east to Baku on the Caspian Sea, and the storm apparently was not expected to delay our flight. Our escort, an official of the airline, hustled us along and installed us in our seats in the plane. Use of seat belts was optional, so it seemed. In any case, mine was broken and useless. After perhaps ten or fifteen minutes our fellow passengers began to file in, amidst much discussion about who should sit where. It all took another twenty minutes, or so. There was no ventilation and the air quickly became depleted of oxygen. Finally the door slammed shut, the stewardess shouted something into the cabin, and one propeller began slowly to turn. A giggle from Natasha in the row behind us punctuated one of Alan’s quips in Bulgarian or something. The propeller turned deliberately, then stopped. The other propeller then turned a few revolutions, and slowed to rest in discouragement. Something was obviously wrong, but there was no announcement. The minutes dragged by as we gasped for breath. After a seeming eternity, men appeared on the wings and removed the coverings from first one engine, then the other. Much poking into the innards of the power plants, then another try at starting them. No luck. I felt ready to die of suffocation when the door opened, the same Aeroflot official marched into the cabin, and Natasha translated the message that we should remain seated until all other passengers had departed.

We were ushered through the mass of humanity in the main hall, now presumably reinforced by the passengers from our plane, and eventually through a door marked “Intourist Center.” There was a large room, empty of people but brilliantly lighted, containing perhaps eight or ten desks for officials and clerks, a couple of couches, and doors indicating “men” and “women.” At the far end of this room was another door which led into a spacious lounge furnished with couches, card tables, magazine racks, and radios, accommodating perhaps fifty people comfortably. This room, too, was empty of people. This was the facility occupied by “Intourist,” the Soviet international tourist agency. Our host indicated that this entire two-room suite was ours for the night. I thought we should be quite comfortable; we had our overcoats and the couches were large and soft.

I later learned that a conversation had taken place between the official and the Katzenjammer Kids. He was worried that the mob outside would penetrate our sanctuary, so he wanted to lock us in.

The Kids objected. There was only one key; fire was a danger (those alcohol stoves); nobody wants to be locked in. So he relented and the door to the suite was locked from the inside. During the night there was some banging on the door, presumably from frustrated souls in the overcrowded waiting room, but this was ignored.

The Kids insisted that Janice and I occupy the inner lounge while they stayed in the outer reception area, so we two picked couches, turned out the lamps, and lay down under our coats. As I drifted off, I heard chuckling from outside from some other joke, in what language I couldn’t guess.

The night passed without further incident, and it wasn’t until next morning that I heard the following story. Alan and Natasha had talked together for an hour or so after we’d retired, then decided to turn in themselves. They searched for a switch to turn off the overhead lights, and eventually discovered a big cutout panel on the wall of the men’s room. They flipped the switches until all the lights were out in their “bedroom,” then they lay down and slept. From time to time they were dimly aware of pounding on the outer door.

Imagine the pandemonium in the great hall when the packed crowd found itself suddenly in total darkness. Imagine the frustration of the airport manager when all his frantic signals brought no response from behind the locked door. All the lights in the huge terminal building remained out for several hours until one of the interpreters finally unlocked the door.

I wondered at the manager’s rather glum demeanor as he escorted us to our plane the next morning. This time we were to depart successfully toward Baku. Presumably he was relieved to see us go.

History of the Minimum Wage

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Dedication of the Eta Kappa Nu Garden
at
Mississippi State University

by
Greg Dykes

The Gamma Omega chapter of Eta Kappa Nu at Mississippi State University held a dedication ceremony on October 25, 1991 recognizing the project completion of our Eta Kappa Nu monument and surrounding garden. The garden, composed of the monument, park benches, and flowers, adjoins the northwest corner of the Simrall Electrical Engineering Building. Gamma Omega was honored to have Dr. J. Robert Betten, Executive Secretary of The Eta Kappa Nu Association, as our very special guest.

The history of Eta Kappa Nu at Mississippi State University began on May 15, 1958, at what was then the Mississippi State College. On December 10, 1959, the Gamma Omega Chapter of Eta Kappa Nu was chartered at MSU and accepted into national membership. Today 120 excelling students and faculty are active members in the chapter.

The garden dedication was preceded the night before with Gamma Omega’s semi-annual new member formal initiation. With faculty advisor

Photos: At Top, Monument is Centerpiece of HKN Garden; at Bottom, A few members of the dedication party gathered at the Monument.
Stan Gryzbowski welcoming our guests and initiates, chapter president Ahmad Haque and officers conducted the formal induction of eleven undergraduates, four graduates, and two faculty members.

Afterward, Gamma Omega's new members, officers of the chapter, and special guests were invited to the traditional post-initiation banquet. Executive Secretary Betten was the featured speaker. He honored Professor Emeritus Paul B. Jacob with a plaque of recognition for his long term dedication and previous activity in HKN which included his service as International Vice President and President of the Eta Kappa Nu Association. Dr. Betten also took time to congratulate Dr. B. J. Ball, Head of the Electrical and Computer Engineering Department at MSU, for his recent election to the International Board of Directors and to thank him for his previous activity and current service to Eta Kappa Nu.

The dedication ceremony, which was held in the Eta Kappa Nu garden, consisted of a ribbon cutting and comments from our special guests. The ribbon cutting was jointly conducted by Dr. Betten; Dr. Ball; Professor Jacob, co-organizer of the Gamma Omega chapter of Eta Kappa Nu at MSU; Dr. R. A. Altenkirch, Dean of the College of Engineering at MSU; and Dr. W. L. McDaniel, Provost and Vice President of Academic Affairs at MSU. The open ceremony was attended by students, faculty, and representatives of the University Administration.

Also in attendance at the dedication ceremony were the following special guests: Dr. R. H. Ruby, Vice President for Student Affairs; Dr. R. D. Kosbel, Dean of the Graduate School; Dr. W. N. Smyer, Assistant Dean of the College of Engineering; Dr. J. C. McKee, Vice President Emeritus for Research and Graduate Studies at MSU and head of the EE department when our chapter was established; Dr. H. C. F. Simrall, Dean Emeritus of the College of Engineering; Dr. J. L. Dodd and Mr. L. J. Hill, charter members of the Gamma Omega chapter; and Mr. K. L. Ledlow, first member initiated into Eta Kappa Nu on the MSU campus.

The dedication ceremony of the Eta Kappa Nu garden created a great opportunity for the present members of the Gamma Omega chapter to associate with their chapter founders, garden organizers, and National representatives.
Kappa Beta Chapter Installed
Wilkes University

by Robert F. Arehart and Michael Miller

Since the early nineteen thirties, Wilkes University has grown from a two-year junior college to a full four-year college, and now it has become a multidisciplinary university offering the necessary quality and variety of curricula required to achieve university status. This was the fascinating story that unfolded as Mr. Joseph Wiendl, a member of the University's Board of Trustees, spoke to the new initiates and guests at the installation of HKN's newest chapter, Kappa Beta. The chapter was installed at Wilkes University in the Media Room of the Mars Center on December 6, 1991. It is the first engineering honor society on the Wilkes campus.

Although at Wilkes a relatively short time, Professor Kirk Bush saw the need for an HKN chapter on campus and was the driving force behind establishing the Kappa Beta Chapter. The initiation ritual was conducted by James D'Arcy, the current National President; Robert Arehart, immediate past National President; Dr. Kirk Bush, who will serve as the Chapter Faculty Advisor; and Timothy Sichler, a visiting Assistant Professor at Wilkes. Six faculty members and thirteen students were inducted into the newly formed chapter as charter members.

The first chapter Officers are:
Jeff Webster, President and Recording Secretary
Kimberly Karrott, Vice President and Treasurer
Michael Miller, Corresponding Secretary and Bridge Correspondent
Dr. Kirk Bush, Faculty Advisor

The other undergraduate initiates are:
Dennis Dudeck
Tom Dugan
Robert Kapusechinsky
Stephen Pasich
Dennis Rauschmayr
Paul Ritchie
Vince Soeci
Charles Stanski
Brent Trauger
John Zukas

The faculty initiates are:
Dr. Munawar Ahmad
Dr. Ahmad Armand
Dr. Vasu Choudhry
Dr. John Gilmer, Jr.
Timothy Sichler
Dr. Thyagarajan Srinivasan
In Memoriam
Edward C. Jordan
Edward C. Jordan, Professor Emeritus of Electrical Engineering at the University of Illinois at Urbana-Champaign, died at Urbana after a short illness on October 18, 1991. He was 81.
He spent his entire life from the age of seventeen in the practice of electrical engineering, having served successfully through the whole gamut of years from radio broadcast technician through engineering student, industrial engineer, professor, researcher, administrator, author, editor, and consultant to government and industries over a span of six decades. His accomplishments and recognition by numerous awards and offices.

Edward C. Jordan, Professor Emeritus of Electrical Engineering at the University of Illinois at Urbana-Champaign, died at Urbana on October 18, 1991. He was 81.

Edward C. Jordan was a prominent figure in the field of electrical engineering. He was a member of the National Academy of Engineering and served as an editor of the IEEE Transactions on Electromagnetic Compatibility. He was also a recipient of the IEEE Centennial Medal.

In Memoriam
Julian Drenner Tebo
July 5, 1903 - Dec. 18, 1991
Dr. Julian Drenner Tebo died on December 18, 1991 in Wyoming, Pennsylvania. He was 88.

During his working years and for many years afterward as an engineer-
ing consultant, he was active in many engineering and scientific organizations including American Institute of Aeronautics and Astronautics (AIAA), American Institute of Electrical Engineers (IEEE), and American Society of Mechanical Engineers (ASME).

During his working years and for many years afterward as an engineering consultant, he was active in many engineering and scientific organizations including American Institute of Aeronautics and Astronautics (AIAA), American Institute of Electrical Engineers (IEEE), and American Society of Mechanical Engineers (ASME).
CHAPTER ACTIVITIES

Annual Report 1990-91  
Beta Alpha Chapter  
Drexel University

Prepared by:  
President: Agnes L. Lucena  
Vice President: Vaughn Sclair  
Treasurer: Christina Jepich  
Secretary: Mona Gupta  
Corresponding Secretary: Steven Cooper  
Drexel University Electrical Engineering  
The Department of Electrical and Computer Engineering at Drexel University is a large department in a private university located in Philadelphia, Pennsylvania. Every year the department confers about two hundred ECE bachelor's degrees, several doctorate degrees, and a number of masters programs. It offers a wide variety of courses, including those required for electrical engineering and computer science. The department is well equipped with state-of-the-art facilities, including laboratories and computer rooms. The department has a strong commitment to research and has several active research groups. The faculty is comprised of highly qualified and experienced professionals. The department also has a strong industry connection, with many of its graduates finding employment in leading companies. The department is proud of its students, who have achieved great success in their careers. The department is well regarded for its high-quality education and its graduates' ability to find successful careers in the field of electrical and computer engineering.

Beta Alpha Chapter at the following events:
- Barbecue/Volleyball Parties
- Dance at the end of the spring semester.

Professor Evaluation—This past academic year, several professors were up for either tenure or promotion. The Student Department Head Representative, an IEEE representative, sent out and evaluated student surveys regarding the appropriate professors on campus. The student evaluation of each professor to the ECE Department Head.

Graduate School Trips—This fall, we surveyed students applying to graduate programs to determine their future plans. In this year's survey, we asked students where they were applying and whether they were interested in attending graduate school. We also collected data on students' plans for the next academic year.

Graduate School Seminar—In conjunction with the Graduate School Road Trips, we sponsored a seminar to provide the graduating seniors and juniors with the ins-and-outs of graduate school. This seminar was an opportunity for the seniors to learn about the graduate school application process and to network with potential graduate schools. The seminar included a graduate school panel, which consisted of current graduate students and recent graduates. The panel members shared their experiences and provided advice on the graduate school application process.

Eta Kappa Nu Chapter  
Enhancement Committee.

In addition to serving the ECE department, and its many events, Eta Kappa Nu provides a number of opportunities for its members. The chapter holds a number of events each year, including social events, professional development workshops, and guest lectures. The chapter also sponsors a number of awards and recognition programs, including the Eta Kappa Nu Outstanding Student Award and the Eta Kappa Nu Award for Excellence in Research. The chapter is proud of its members, who come from diverse backgrounds and have a wide range of interests. The chapter is committed to providing opportunities for its members to develop their skills and to network with other professionals in the field of electrical and computer engineering.

Spring/Fall 1991 Officers

President: John Strassler  
Vice President: Darien Campbell  
Treasurer: Michael Clausen  
Recording Secretary: Richard Reseland  
Corresponding Secretary: Ran Castello  
Bridge Correspondent: Jon B. Durnin  
Faculty Advisor: Dr. David Stephenson  
Number of Students: 154 (Spring)  
Number of Members: 43 (Spring)  
Number of New Initiates: 21 (Spring)  
Number of Business Meetings: approx. 30

Programs and Activities

VEISDA Displays:  
Spring:  
- 10 monitors  
- 50 hours of operation  
- VEISDA is a student-run, university-wide "fete" in which departments and groups can open their doors to the public. In coordination with the Institute of Electrical and Electronics Engineers, Huang set up and maintained various exhibits and displays of the department. The involvement was by active members, and was one of several required service projects that could be selected by new initiates.

Annual Report 1990-91  
Nu Chapter  
Iowa State University

1990-91 Officers and Data

Spring/Fall 1990 Officers

President: E. J. Thiel-Snell  
Vice President: Jeff Hass  
Secretary: Joie Elberich  
Treasurer: Joel Fastenau  
Faculty Advisor: Sam Jain  
Bridge Correspondent: Tom Devlin  
Number of Members: 101 (Fall)  
Number of New Initiates: 31 (Fall)  
Number of Business Meetings: approx. 30

Motorola Presentation: New activity  
10 monitors  
Fall  
This semester, Motorola was invited to Iowa State University to give a talk on communication systems. Composed by IEEE, the Society of Women Engineers, Tau Beta Pi, and HKN, this seminar drew between 75 and 180 students. It was an opportunity for students to learn about industry, and also to hand in resumes. It is a great goal of this chapter to promote more such meetings in the future.

Picture Display: Reinstalled activity  
10 monitors  
Spring and Fall  
Each semester, we like to take pictures of the new initiatives. This gives them a memento of their initiation, and provides us with an interesting visual record of years past. Each fall, this picture is entered into the BOMB annual photo contest held under the "Eta Kappa Nu electrical engineering honor society."
dents in electrical and computer engineering are required to take, and usually carry for the Class of '80, one of a student's lab supplies. By taking advantage of this fact, the chapter can provide a marketable local supplier, a small profit for the chapter, and save the Class of '80 on those kits that are less expensive than the bookstore's price.

Weekly Board Meetings:

- **Meeting activity:** 1 hour/week
- **Spring and Fall:**
  - The board holds weekly board meetings that are open for all members to attend. This semester, a concerted effort has been made to attract non-board members to the meetings. This has been done by placing large signs on the chapter's bulletin board and by spreading the word by mouth. Thus far, the members who have shown up are actively pursuing discussing activities. It is a long-term goal of the chapter to increase member participation in the affairs of the chapter (please see below).

Pledge Projects: Continued activity

- **Spring and Fall:**
  - As part of their initiation, we require at least one pledge project. A sample of previous projects follows:
    - **Aiken:**
      - The initiation meetings and times are organized by officers, and pledge week activities are set up by initiates. Often, the initiation social hour is set up by one of the initiates. The making of the pledge book, sending of letters of invitation for the initiation ceremony, and contacting Alfa Maids and the HKN bridge on display outside the department building, are all examples of things done every semester by the initiates.

A Look Ahead

The immediate goal of the Nu chapter is to encourage more HKN members to organize and participate in our activities. We have started this by inviting all members to our weekly board meetings and setting up a participation activity line. If a student becomes a participating member, they will have to become involved in at least one activity per semester and attend board meetings.

However, before doing this, we realize that the chapter has never become more visible on campus. The test file, recruiting high school students, and proposed fundraisers are all steps in that direction. Fundraisers that are planned include bake and pop sales as well as obtaining a photocopy for student use. The club could give all students easier access to a copier within the building, and hopefully we can provide a cheaper rate than the present one.

A volleyball tournament among all the engineering honors is also planned for next semester. No tournaments have been held since 1988, and as traditional sponsors, we feel that we should take the lead in organizing a new tournament.

In order to attract members who cannot commit to more than one semester, we would like to have some of our cabinet positions available as single semester positions. In addition, in order to work more efficiently, we plan to add a number of different projects that would assign different roles to different people.

Hopefully, the successful integration of these ideas will result in a much stronger and more prominentEta Kappa Nu chapter at Iowa State University.

Prepared by Suderan Degeen
(Bridge Correspondent)

### Annual Report 1990–91

**Gamma Theta Chapter**

**University of Missouri-Rolla**

**1990-91 Officers and Data**

**Fall Officers:**

- **President:** Joe Joplin
- **Vice President:** Darren Melton
- **Secretary:** Ryan Elbert
- **Recording Secretary:** David Medrow
- **Bridge Correspondent:** Gary Elbert
- **Historian:** Scott Leigh & Susan Love

**Spring Officers:**

- **President:** Ryan Elbert
- **Vice President:** David Medrow
- **Secretary:** Gary Elbert
- **Bridge Correspondent:** Kevin O'Brien
- **Historian:** John Schmidt

**Number of Members:** Approx. 48

**Number of New Initiates:** Fall: 14

**Spring:** 12

**Number of Business Meetings:** 13

### Activities

**Hobby Club:** Recurring

- **Fall:** Darren Melton
- **Spring:** Brian Fortman

**The Hobby Club is a laboratory that has been set aside for student use.**

**The Electrical Engineering Department has leased oscilloscopes, power supplies, and function generators to the Hobby Club.**

**The Electrical Engineering Department has leased oscilloscopes, power supplies, and function generators to the Hobby Club.**

**Member participation began the third week of the semester, when eligible students received invitations to join Eta Kappa Nu.**

**Aiken:**

**Fall:**

- **Field Manager:** Fall: Dave Medrow
- **Spring:**

### Lab Insurance:

- **Insurance:** Recurring

- **Fall:** Anne Kruse
- **Spring:** Darren Melton

**Gamma Theta chapter provides insurance against breakage of laboratory equipment.**

**The $250.00 fee covers $200.00 of coverage in case of an accident, and is sold on a semestral basis.**

**The policy is mentioned in the syllabus of each laboratory class, and members are reminded of it before classes in the EEE building laboratory.**

### Electrical Engineering Department

- **Department Picnic:** Recurring

- **Fall:** 100 hours
- **Spring:** 100 hours

**At the beginning of the fall semester each year, Eta Kappa Nu and IEEE jointly sponsor a departmental picnic to welcome the students and faculty back from the long summer break.**

**The department picnic began the third week of the semester, when eligible students received invitations to join Eta Kappa Nu.**

**Aiken:**

**Fall:**

- **Field Manager:** Fall: Dave Medrow
- **Spring:**

**Eaton:**

- **Field Manager:** Fall: Dave Medrow
- **Spring:**

### Recognition of Members

Two of Gamma Theta's members achieved national recognition for their accomplishments. Becky Dancy, a former chapter president, received an Honorable Mention in the Alton B. Zerby Outstanding Student contest, and member David Medrow was selected as an Honor Roll Member in Eta Kappa Nu's Normal E. Carson Outstanding EE Junior contest.

### Annual Report 1990–91

**Zeta Lambda Chapter**

**Prairie View A&M University**

The Zeta Lambda Chapter of the IEEE Rho Gamma chapter hung a banner in the Library for two weeks. The banner outlines the achievements of the chapter and the insignia of the IEEE. The banner was designed by a student member of the chapter.

### Membership

The chapter has grown from a small group of members to a large group of active members. The chapter has a high level of activity and is well respected by the students. The chapter has also received recognition from the IEEE Region and the IEEE National Office.

The chapter has continued to be active in community service projects. The chapter has organized several events, including a food drive, a blood drive, and a clothing drive. The chapter has also participated in various charity events, such as the Relay for Life and the United Way.

The chapter has received recognition from the IEEE Region and the IEEE National Office. The chapter has also been invited to participate in the IEEE National Conference on Undergraduate Research.

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The chapter has received recognition from the IEEE Region and the IEEE National Office. The chapter has also been invited to participate in the IEEE National Conference on Undergraduate Research.
neering Department. The initiation process was the same as in the fall.

After the induction ceremony which was held on April 4, 1991, the following officers were elected for the 1991-1992 academic school term: 1) Tara Williams—President; 2) Chancellor Archie—Vice President; 3) Bobby Mays—Treasurer; 4) Elijah Porter—Corresponding Secretary; 5) Roderick Maddox—Recording Secretary; 6) Charles Ocansey—Bridge Correspondent; 7) Kimberly Jenkins; 8) Ralph Minter; and 9) James Northern.

The weekend following the ceremony was concluded with a banquet in Houston held in honor of the new members of the Zeta Lambda Chapter. It was followed by an Honors Banquet recognizing their achievement as well as the achievements of other students within the College of Engineering and Architecture.

As members of Eta Kappa Nu's Zeta Lambda Chapter, we were successful in inducting a total of 15 new members into the Association, who, by their attainments in Electrical Engineering, have and will continue to bestow honor upon their Alma Mater through distinguished scholarship, activities, leadership, and exemplary character.

A Life Subscription to the BRIDGE is available at a modest cost of $48. Send a check with name and address to:

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