

BRIDGE of Eta Kappa Nu

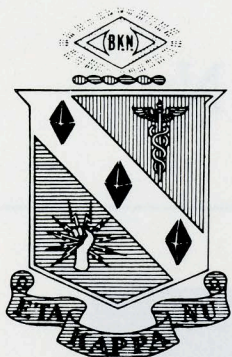


**A Monument to Excellence
Zeta Pi Chapter, State University of New York @ Buffalo**

Feature Articles:

Industry Perspectives—Additional Skills Important to EE Graduates

The First Ascent of Institute Peak



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J. Robert Betten

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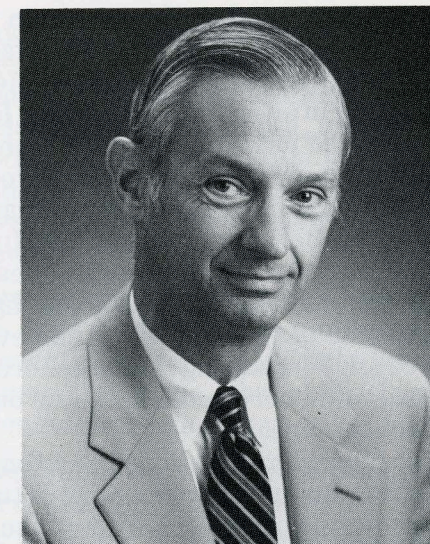
INDUSTRY PERSPECTIVES

**"Additional Skills Important
to Success of EE Graduates"**

by
James A. Eibel

**Vice President—Operations
Illinois Bell Telephone Co.**

Editors Note: This paper is a complete transcript of the talk entitled "Industry Perspectives" presented by Mr. Eibel at the EDUCATIONAL ISSUES COLLOQUIUM held in Chicago on October 1, in conjunction with NCF '89, the National Communication Forum, sponsored by the National Engineering Consortium, NEC. It is printed here with the permission of both James Eibel and the NEC.



I'm happy to open the Educational Issues Colloquium and I'm glad to see so many of you here today. I realize that the focus of today's meeting will be on career prospects in the telecommunications industry for students who have recently completed graduate degrees in engineering.

I have to point out that since Illinois Bell isn't involved in manufacturing, we aren't looking for research engineers. That means that in the past, most of our new engineers have come to us with bachelor's degrees. Lately, however, we've found that more and more of the people we interview *do* have graduate degrees. In addition, we encourage our engineers to seek graduate degrees following employment at Illinois Bell, and many of them do just that. But what we've always looked for in our new managers with bachelor's degrees usually applies to engineers with graduate degrees, as well.

Having said that, I'd like to begin by telling you that as a member of the Executive Advisory Council of the National Communications Forum, I'm excited and pleased with the progress we've made in widening our affiliations with universities and colleges around the country.

Today, education is more important than ever for the business community, because today, the emphasis in industry isn't so much on the production of goods, but on creating, processing, and moving information. Most businesses today win or lose in the marketplace by succeeding or failing to manage information quickly and well.

And information management requires the kind of technological expertise, managerial dexterity, and communication skills that good universities and colleges strive to develop in our brightest young people. That being the case, a large part of *our* future is riding on *your* efforts in the classroom.

That's why I'm grateful for this chance to share my perspective on the kinds of opportunities awaiting new engineers who want to build careers in the telecommunications industry. My guess is that some of the challenges they'll find there will surprise them. Certainly there are opportunities in my company and in the industry for people with backgrounds in marketing, human resources, and finance. And many of the skills I'll be talking about will be needed by all new managers, regardless of their field.

But my part of the business is the technical part of the business. Most of the new managers we bring into my department are engineers, and engineering is the area that I know best. So what I'd like to do this afternoon is take a few minutes to describe what's going on in our business and then mention some of the qualities and skills that Illinois Bell and other telecommunications companies will be looking for in the new engineers you graduate.

Since the breakup of the Bell System, the telecommunications world has changed dramatically in many ways. My company was once part of a huge regulated monopoly. The business—*all* of the business—was virtually ours. But we now have robust competition from a number of different players. We aren't alone out there anymore. Today's telecommunications industry embraces three different kinds of companies: those that provide long-distance service, those that manufacture equipment, and companies such as Illinois Bell that provide local exchange service.

Obviously, I'm talking about a lot of companies, and all of their activities form a vibrant, rewarding portion of the business community. Last year, revenue growth in the country's telecommunications

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sector increased to almost seven percent, more than doubling its 1987 rate. Manufacturing companies have seen an explosion of new technology resulting in an expanding market for cellular telephones and incredible growth in the popularity of FAX machines. Business is also good for long distance companies and for local exchange companies.

Illinois Bell, for example, had five million telephone lines up and running last year. It took more than 100 years for us to reach that figure, and today telephone usage is greater than ever before. Our Network Forecasting Group believes it should take us only ten more years to install our six millionth telephone line.

So telecommunications is a strong industry, and it offers many fine career opportunities for new engineering graduates. Part of the opportunity is based on the tremendous change we've seen in the complexity of our technology in the past five years.

If you walked into one of our central switching offices in 1983, in many cases you'd have seen electromechanical switching machines manufactured by one company. They hosted a forest of individual telephone lines, each capable of handling one conversation at a time. Those same offices today contain digital switching machines that we buy from three different manufacturers. Those switches serve fiber optic transmission cables that can handle 16 thousand conversations or more—on a single fibre pair!

Comparing our equipment today with what we had five years ago is like comparing a word processor to a manual typewriter. The technology is that complex, and it's much harder to learn than it used to be. So people with the technical skills are in high demand. Illinois Bell employs about 22 thousand people, and my department is the largest in the company. Since our focus is on the technical side of the business, we rely on engineers to do much of the work there.

And I'm impressed with the degree of technical expertise and sheer knowledge that we're seeing in people coming out of college these days. Engineering schools are right on the mark in teaching basic engineering and in developing students' analytical skills and their ability to solve complex problems through rigor and logic.

But today's engineers need to build other skills on that solid technological foundation. Skills that will help them to manage effectively and advance in the industry. Because, the sweeping changes in our business haven't all been technological changes in our equipment and products.

Today the entire world where we do business won't hold still for 24 hours. And even though sophisticated, innovative technology is still important to us, it no longer drives the industry. Because of intense competition, it's now aggressive, intel-

ligent marketing that separates the winners from the losers in our business.

It's a market-driven industry, now, so Illinois Bell has had to become a market-driven company. We've had to make substantial changes in the way we do business. And as our business changes, so do the ways we rely on our engineers, and so do the skills they need to do their jobs.

I'm an engineer myself, and I can tell you that the kind of upheaval we've seen can be difficult, especially for people who built their careers when the industry *was* driven by technology. There was no competition, then, and we could focus almost exclusively on technical problems, technical solutions, and technical progress and innovation. We could enhance existing equipment or design a new product and say "here it is." Customers would buy it or forget about it, and that was that.

We had the best telephone system in the world, but we based decisions on what we thought our customers wanted, not on what they said they wanted. Today, that process has reversed itself. We can't develop technology for technology's sake, anymore. We have to focus on our customers, today. We have to find out what they want technology to do for them. Then we have to get to work and make it happen.

That's how marketers think. Today, our engineers have to think that way, too. They have to learn our complicated technology, and they have to think about it in terms of its applications. They have to understand it as something that we can adapt to fit our own needs and the needs of our customers.

We still need engineers who can design better network plans or enhance the products and services we already have. But that's just part of what they'll be doing. They'll also have to think strategically and see how their skills as engineers fit into the big picture. They'll have to look at problems from different angles and team up with people in non-technical jobs to help the company get products that customers need out into the marketplace.

That means that the challenges they'll find at Illinois Bell might be much different from what they expected on graduation day. It also means that the skills and personal qualities we look for in new engineers are different today from what they were even five years ago. They'll still need solid grounding in their basic discipline. But they'll also have to be flexible and able to take on different kinds of jobs and responsibilities. They'll have to learn marketing skills.

To be effective and advance in the company, they'll have to be good at dealing with other people. They'll have to "network." They'll have to exchange ideas and share information and resources with people in other departments. They'll also need to be flexible and imaginative when they deal with

their own superiors. They'll be encouraged to take risks and challenge authority when they think it's necessary. They'll make many of their own decisions. And they will need one other skill. Because to some extent, at least, most of those other skills require the ability to communicate effectively.

A recent survey by the National Engineering Consortium showed that by far the largest deficiencies in engineering graduates are written and oral communications skills. At Illinois Bell, communications skills are crucial, because most of our engineers won't always be in jobs that require purely technical expertise.

All the managers we hire at Illinois Bell go through tests and interviews. We put the ones we think have a chance to advance into a rigorous orientation program. We place them in staff jobs and in line jobs, some close to their own discipline, and others that make them stretch their abilities. We expect them to do well in those jobs, to learn all they can about the company, and to handle extra projects we throw at them. They grow a lot when they're in that program, but it's not easy for them, especially at the beginning. I know, because I make a point of having breakfast meetings with each new group on a regular basis throughout the year. I've heard war stories from some of them about their early experiences in the company.

One new engineering graduate was placed in an engineering staff position. After a few months he realized that his technical expertise wasn't going to be a problem. The ability to *convey* what he knew to his co-workers was what he had to work on. He insists that the ability to put together crisp, concise written reports and effective speeches and presentations is a must at Illinois Bell. It's a must in any company!

An engineer might have a great idea for a new product, but it's not enough to be a creative thinker. Or even an inventor. Because if that engineer can't gain the support of his superiors he can forget about his good ideas—they're worthless. If he wants to contribute anything to the company, he has to be able to sell the technical details of anything new and different to upper management.

It isn't practical, in the business world, to concentrate only on knowing more and more about less and less. To be successful, all of our engineers don't have to know all there is to know about the latest telecommunications technology. They *do* have to be able to know more at certain times than certain other people do. And then they have to be able to pass that knowledge on. They have to sell it.

I can already hear every senior in every engineering school complaining, "I don't want to be

involved in anything related to sales." But when they're interviewing for jobs they're going to have to convince people that they're better candidates than anyone else. That's a sales job, and they'll have to be good at it if they ever want to work as engineers. And once they go to work they'll have to sell every design they draw up when they present it for review.

They will have to manage every new technical idea they have. And if they plan on staying with any company, eventually they'll have to be able to manage and supervise people. That ability is also grounded in communications skills.

New engineers *might* start as outside plant engineers and be responsible for helping to design, plan, and place facilities for our outside cable networks. Or they might start in our Planning and Engineering group and do everything from working with fundamental network plans to helping coordinate the installation or removal of central office equipment.

One of them did that, but after a year or so he moved to a job that amounted to being the executive assistant for our vice president of Human Resources and Support Services. He researched and wrote speeches and presentations for his boss. He wrote his own presentations on career pathing and delivered them to other employees. He worked late on weekends *many* times because he had to become a better writer to do his job. Now, he's back in another operations job, supervising a hundred people who install and repair telephone service.

Another fellow also spent a year supervising a group of installers in the field. He was 22 years old, fresh out of engineering school, and he had to motivate and *lead* several people who had been with the company for 20 years. Most of them were his father's age. He said that for the first couple of months in that job he felt like he'd parachuted into Russia. But he earned his stripes, and he had some good advice for the supervisor who took his place:

"They're going to test you. Be humble, put the jeans and boots on, get out there and work with them. Ask questions and earn their respect. Learn how to motivate them. There's no formula for that, because they're all different. Sometimes you have to be tough and apply a little discipline—learn *exactly* when to do that. You have to be sure because once you decide to do it, you can't back down. And sometimes you have to compromise, so you have to learn to do that, too. That's definitely part of building up your leadership skills."

That's a good description of what our managers have to do. And today, that engineer is exactly the type of manager that Illinois Bell is looking for.

To sum up, then: There are plenty of opportunities in our industry for capable young engineers who can learn new technology quickly. But we want them to be able to become "generalists," too. They should be open and well rounded, because they'll have to work with other people and learn from them.

We want them to move ahead, so we look for signs of good leadership qualities. Did they join any organizations in school? If they did, how involved did they become? Were they chairpersons or officers? Did they head committees? Do they know how to ask the right questions? Above all, can they learn quickly and pass that knowledge on? Do they have the ability to communicate—to speak and write well?

Obviously, people with *all* of those skills and personal qualities aren't walking around Chicago in flocks waiting to be hired. And it probably isn't possible for engineering departments to send their students off to take more English, History, and Speech courses. Engineering curriculum is always too crowded, anyway, and adding more courses might turn the typical program into a nervous breakdown in slow motion.

But some of you might be familiar with Clemson University's new Effective Technical Communications program. The Engineering and English Departments at Clemson are working together to teach engineering students how to put together businesslike presentations and written reports on their *own* projects—in *plain English*. And they're integrating instruction on graphic, oral, and written communications throughout the entire undergraduate engineering curriculum.

This kind of interdisciplinary approach should enhance the great strength that can make engineers excellent management material: their disciplined thinking and their ability to break down large, complex problems into a series of small problems without losing sight of their basic objective. If they've also picked up some of the other skills I've mentioned, they'll be better candidates when they're looking for jobs in our industry.

And now I'd like to conclude by saying how much I've enjoyed sharing some of my ideas with you and how glad I am to see all of you supporting the National Communications Forum. Our industry will certainly benefit from your contributions.

Zeta Pi Chapter's Special Project

A MONUMENT TO EXCELLENCE

by Jon Tucker and Karen O'Keefe

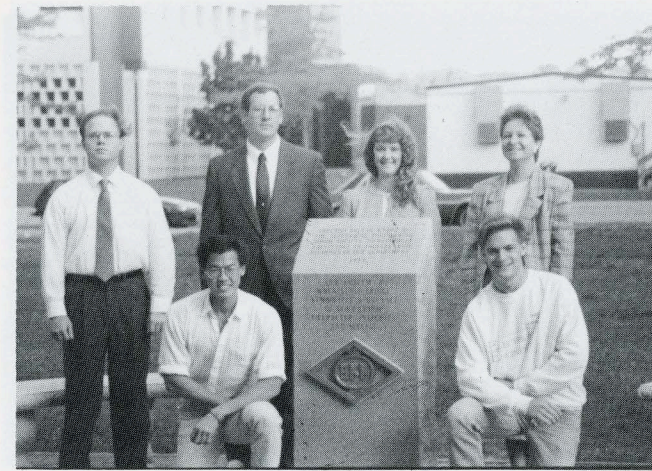
It was a balmy winter day in Buffalo, New York when Zeta Pi Chapter's Secretary, David Rosten, proposed an idea that focused the chapter's energies for the better part of a year. His suggestion: "Let's erect a monument on campus that will be dedicated to the Electrical Engineering Department." The idea took root, a committee was formed, and we were on our way.

The location for this new monument was predetermined when the north campus of the State University of New York at Buffalo (UB) was constructed in the 1970's. Nestled between two of the engineering buildings (Bell Hall and Bonner Hall) is a ten thousand square foot section of land designated specifically for the engineering honor societies to erect monuments. Previous to this HKN project, only Tau Beta Pi had elected to make use of the land for a monument. Consequently our initial effort in the planning stage was to design a monument that would complement its surroundings and be aesthetically pleasing. The Monument Committee began meeting in January of 1989 and consisted of

David Rosten (Secretary), Karen O'Keefe (President), Albert Titus (Bridge Correspondent), Jon Tucker, Clark Hochgraf, Gene Zadzilka, Eric Kauffman, and Michael Mack.

There were three main goals: design the monument, raise the necessary funding, and obtain University approval for construction. As is the case in many engineering efforts, our goals were interdependent, and our flexibility to change would be the key to success. We pursued these goals concurrently, making changes as required by new events. The form of the monument took shape as we debated the pros and cons of the many concepts presented by committee members. The final form, as illustrated in the accompanying photographs, was a compromise of time, money, technical ability, and aesthetic appeal.

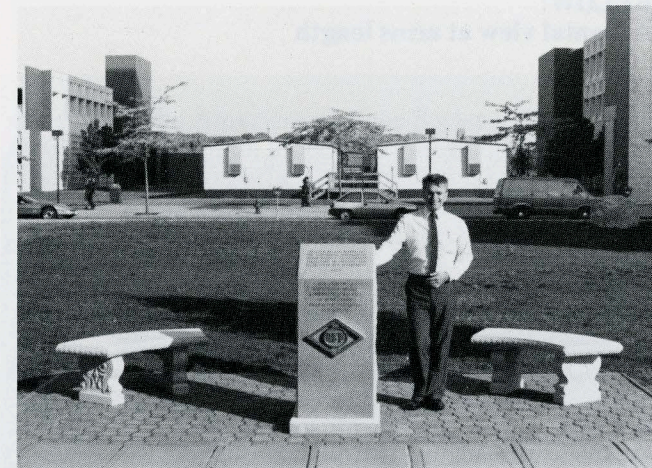
The exact location of the monument on the designated land was considered carefully and finally selected between a tree (for appearance) and a lamp post (for lighting) on the edge of the lot. The side of the lot



ABOVE:
Six-sevenths of the construction crew. Left to right—Duane Smith, Siew Lim, Jon Tucker, Karen O'Keefe, Barb Malinowski, and Eric Kauffman

AT RIGHT:
The Finished Product—A Monument to Excellence

BELOW:
The remaining one-seventh of the construction crew—David Hayes



selected is well traveled by students on their way to class, and therefore our monument would receive maximum visibility. The monument itself consists of a 16 by 8 foot rectangle laid with paving blocks which closely match the brickwork on the University. A granite column adorns the center edge of the rectangle with an inscription to the department. On the front of the monument is a bronze casting of the HKN emblem. To complete the effect, two curved concrete benches are placed on either side of the column.

All of the members who participated in the construction learned a great deal about topics that one might find in a civil engineering curriculum. The paving blocks that



form the base of the monument required a firm foundation, and the granite column's foundation would have to extend below the frost line. For advice on these items we consulted with Dr. John Mander of UB's Civil Engineering Department. Dr. Mander generously gave of his knowledge and experience to educate us in the fine points of building a stable structure. In addition, David, Jon, and Karen received a firsthand view of a foundry as we contracted to have the bronze casting made. David drafted a detailed drawing of the HKN emblem from which the foundry produced a finely detailed piece. The central focus of the monument, the granite column, was the object of a great deal of consideration. After the size and shape was determined by the committee, David and Jon went shopping at the area monument businesses. We quickly discovered that the column would be our single most expensive item. We contracted with Wagner's Monuments of Cheektowaga, New York for the granite work. To our good fortune Dennis Wagner, the owner, also crafted concrete benches which would complement the monument as we had envisioned it.

Our fund-raising efforts continued from conception until final completion. Funds for the monument came from many sources; faculty members, alumni, the Electrical Engineering Department, and several student organizations at UB generously donated money to our project. The members of our chapter worked to raise the remainder of the funding. We held a Walkathon in April 1989, and a portion of the money raised was



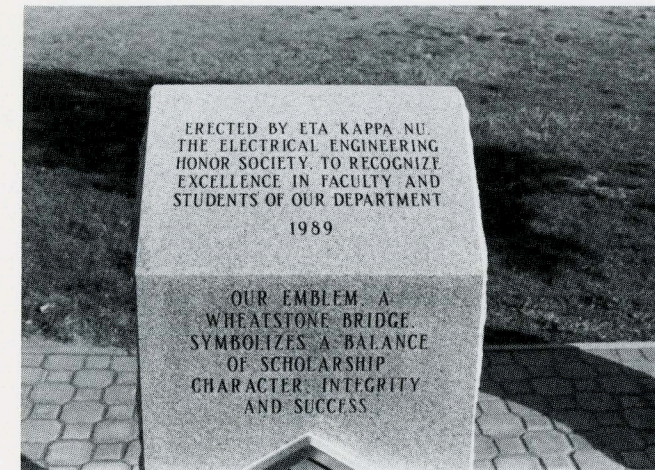
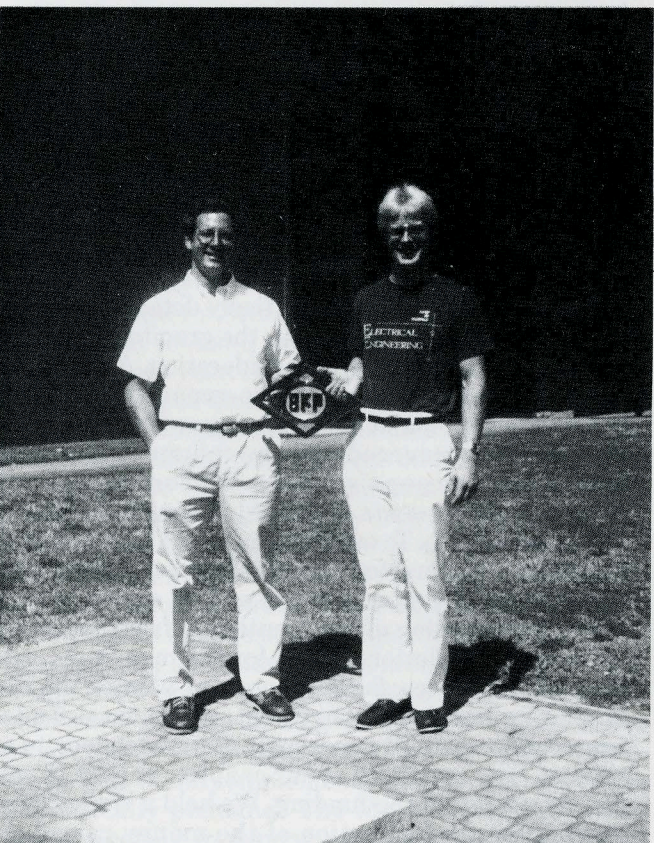
TOP LEFT:
Ground Breaking by David Hayes

TOP RIGHT:
Tod and Karen supervising the excavation for the concrete foundation

AT LEFT:
The construction crew hard at work

LOWER LEFT:
Jon Tucker at left with David Rosten holding the bronze casting

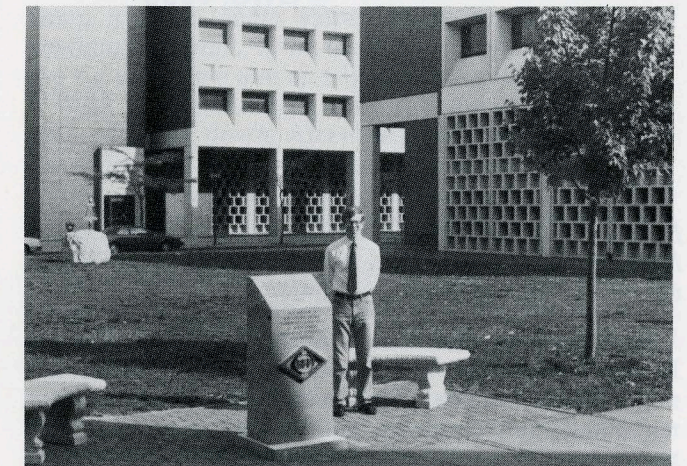
BELOW:
A frontal view at arms length



ABOVE:
Close-up View of Inscription

TOP RIGHT:
Officers, left to right — Jon Tucker, President; Raj Raheja, Secretary; Chi Koon, Vice-President

AT RIGHT:
Geoffrey Burr, Treasurer



donated to the American Cancer Society. We also sold sweatshirts with an electrical engineering logo. An HKN member designed an appropriately technical emblem which now graces many students strolling the UB campus. The final project cost was three-thousand dollars, and all of the funding sources were crucial to successfully building the monument.

We were pleased to find encouragement and cooperation from the University faculty and staff with whom we spoke in our efforts to obtain formal approval for our project. The Engineering Dean's office and the office of the University Architect were instrumental in assisting us with this portion of our efforts. The University granted approval in May 1989, removing our last impediment to a successful project.

The last week in August 1989, was the time to toil over the most arduous portion of our project. The construction crew consisted of David Hayes, Eric Kauffman, Barb Malinowski, Duane Smith, Siew Lim, Jon Tucker, and Karen O'Keefe. All of us who worked that week to construct the monument can attest to the fact that hard baked August earth does not willingly accept a shovel. However, with picks and shovels in hand, we made our mark in the earth and forged lasting friendships at the same time. After pouring the concrete column foundation and laying the paving blocks, we gave ourselves a reprieve from physical labor by beginning the fall semester. The benches and column were delivered

several weeks later, and we derived a great deal of satisfaction from stepping back and looking at our creation.

The monument has caught the attention of many students on campus. It provides a pleasant place to sit between classes and enjoy the sunny Buffalo weather. We often pass by to see students reading the inscription on the column and probably thinking "I've never heard of Eta Kappa Nu before now." People have also been enjoying the benches behind the column, for they provide a pleasant place to sit and talk, study, and have lunch outdoors.

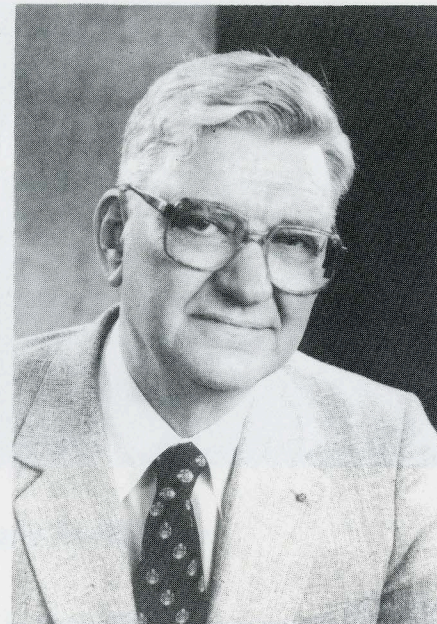
The final stage of this project occurred on October 31, 1989 when a formal dedication ceremony was held at the monument. It was attended by President Steven B. Sample, the Deans of Engineering, the Chairman of the Department of Electrical Engineering, supporters and contributors, and Eta Kappa Nu members who made the monument a reality.

— NOTE —

Large Bronze Castings of HKN Key may be ordered: Contact Zeta Pi Chapter-HKN, Trailer F, State Univ. of New York @ Buffalo— ZIP: 14260 (Price: A few hundred dollars).

THE FIRST ASCENT OF INSTITUTE PEAK

by
George W. Swenson, Jr.
© GWS, 1990



Editors Note: Dr. George W. Swenson, Jr. is Professor Emeritus of Electrical Engineering and Astronomy at the University of Illinois-Urbana.

Extract from the diary, 1954:—April 10. Keaton Keller, Phil Bettler and I stopped at the “hacienda” near Black Rapids, Richardson Highway, Friday night and spent Saturday and Sunday reconnoitering route to dominant peak on south side of Canwell Glacier. Failed summit because of time element and exhaustion. Saw wolverine tracks on the glacier at 6000 feet. Slept three in a two-man army tent Sat. nite at -13 degrees F. Unusually clear day Sun., with Wrangell Range clearly visible from high camp.—

This terse entry brings some vivid recollections. The three of us were members of the physics community at the University of Alaska at Fairbanks. We’d done a few minor climbs together in the Alaska Range and we’d spotted this beautiful mountain a number of times while driving the Richardson Highway, at that time the only north-south road through the mountains. We searched the archives for records of alpine activity, and couldn’t find evidence that anyone had attempted to climb it. It was clearly the type of peak that required some technical skill and equipment, not the sort of place you’d expect a prospector or trapper or Indian to explore. More serious climbers had concentrated on the higher peaks, in the twelve-thousand foot and higher class, and there had been little activity by weekend hobbyists. So, one weekend we thought we’d knock it off, and thereby accomplish a ‘first ascent’. On the topographic map the peak appeared to be about 8000 feet above sea level and about twelve miles from the nearest point of the highway. It was heavily glaciated and covered with snow, and on the north side it presented an almost vertical wall dropping 4000 feet to the Canwell Glacier, one of the enormous rivers of ice flowing westward out of the eastern end of the

Alaska Range. From the highway, either north or south of the Canwell, the peak dominated the skyline, and thus it assumed an apparent significance out of proportion to its actual height.

We started out from Fairbanks in Phil’s station wagon after work on Friday and drove the 125 or so miles down the highway to the vicinity of the Black Rapids of the Delta River. There we’d spotted a tumbledown log cabin abandoned by some long-departed trapper or prospector, which we thought would make a suitable place to spend the night before a climb. I think it was Keaton who named it the ‘Hacienda’. The windows and door were missing, the floor was of dirt, and the sod roof had caved in at one end, but we weren’t fussy, so we rolled up in our sleeping bags for a good night’s rest. It was past the vernal equinox, so there was adequate daylight for climbing and the weather promised to be fair, but there was still snow in the woods and temperatures at night could easily drop below zero, Fahrenheit. We were prepared with warm clothes and sleeping bags and an army surplus two-man tent.

Saturday morning we breakfasted at dawn and drove south to Mile 210 where we parked the car and started up the hill toward the summit of Rainbow Ridge, 3400 vertical feet above us. We soon encountered deep snow, but since Friday had been warm and the previous night had been well below freezing there was a strong crust which easily supported us. Still, we had to strap the spiked crampons onto our boots to ensure firm purchase. The slope was steep but the footing was good and it was unnecessary to rope up, so we made good time and by noon had surmounted the ridge, 6000 feet above sea level.

Ahead of us to the east, about four miles away, was the peak we hoped to climb. Even viewed from this altitude it dominated the skyline, a tempting goal. Between us lay a large glacial cirque, deep with snow



Institute Peak. Aerial view from the North

and ice, and then another ridge beyond which we could see nothing except the peak looming in the background. After a hasty lunch we descended into the cirque, about a thousand feet below the ridge, to discover that we’d made a serious error in not bringing skis or snowshoes. At this altitude the snow was hip deep and walking was excruciatingly tiresome. We floundered on, nevertheless, and eventually surmounted the second ridge. It was here that we saw wolverine tracks in the snow, causing much speculation as to the motivation of this remarkable member of the weasel family, to bring it to such an inhospitable neighborhood. There couldn’t have been anything for it to eat within miles, and no animal could have wandered up there merely by accident. Or could it? We don’t usually ascribe to animals the determined curiosity of human beings, but maybe we’re wrong.

Once again, ahead of us lay an enormous glacial cirque, above which we could now see the entire route to the summit of our peak. This cirque was larger than the first, and even deeper in soft snow. A half hour of effort brought a feeling of discouragement: it was already late afternoon and it would clearly be impossible to struggle across the cirque, climb the peak, and return to the car by nightfall Sunday. We’d have to designate this weekend’s effort merely a reconnaissance, and plan to come back later with better equipment for a new attempt.

We pitched our single 5 × 7 foot tent far enough from the steep slopes to be safe from avalanches. Out in the middle of the vast whiteness of the cirque, with the tall peaks looming over us on three sides, we felt insignificant indeed. The view to the south was magnificent, the Gulkana Glacier falling away in the foreground and the great volcanic peaks of the Wrangell Range visible in the clear air 150 miles to the southeast. The sun had dropped over the ridge to the west and suddenly it was bitterly cold. After donning our heavy parkas we boiled some supper on our little gasoline stove and crawled into our sleeping bags. It was cozy, that’s certain, with three big men in double bags in a tent meant for two. It was also

cold; we learned later that the nearest weather station, at Big Delta 50 miles to the north, had recorded -13 degrees F. that night and it probably was much colder where we were at 6000 feet altitude.

Next morning we traipsed the rest of the way across the cirque, confirming that the snow was so deep that we couldn’t possibly complete the climb that day. Returning to our high camp we packed up and headed for the car. It was a long, hard day, but uneventful. It took until late afternoon to return to the summit of Rainbow Ridge, from which we could see the Richardson Highway below us. During the afternoon the sun thawed the snow surfaces on the western slopes of our two ridges, softening them to make travel even more difficult. As the slopes weren’t particularly dangerous we sometimes glissaded, to save energy and time. In glissading one slides down a steep snow slope, either on one’s feet if conditions permit, or on the seat of one’s pants, using the tip of the ice axe as a brake. It’s fun!

With our destination visible below we were very anxious to get down. After two long, hard days above the snow line we were tired, hungry and very, very thirsty, and we impatiently plunged down the steep slope with long glissades in the soft, wet snow. Suddenly we passed below the sunlit area into the shade of the great peaks to the west, and the snow began to firm into large crystals of ice, “corn snow”. Unthinkingly, I ran a couple of long steps and leaped into a sitting glissade. Calamity! In the two seconds it took to realize what was happening, the abrasive ice crystals ripped through my woolen army pants, my long johns, and my epidermis, laying bare a large area of a strategic portion of my anatomy.

The remainder of the trip was, perforce, conducted in more decorous fashion. We arrived at the car in due time, in the dark, after floundering through deep snow in the willow thickets on the hillside just above the highway. We arrived in Fairbanks at midnight, the only further untoward incident being the brief panic I felt on discovering that my bleeding posterior had stuck to the plastic upholstery of Phil’s car.

We resolved to try again to scale our adopted mountain.

Extract from the diary, 1954:—April 24. Stayed at Hacienda Fri. nite. Keaton Keller, Phil Bettler, Keith Hart, George Schaller, Geo. Swenson. Started up over Rainbow Ridge from Mile 210, Richardson Hwy. At 8:00 AM Sat. Many changes from snowshoes to crampons and vice versa. Crossed high ridge and down onto glacier, across this two miles, up into col below 7000 ft. peak on ridge paralleling Canwell Gl. Camped here; two two-man tents for five men. Weather slightly below freezing. Comfortable night. Set out for summit of dominant peak on south side of Canwell at 7:30 AM Sun. Peak is at lat. 63-17-40, long. 145-30-00. Up very steep snow slopes, very hard snow; cut steps occasionally. Five men on rope. Near top, up nearly vertical pitch above vertical drop on Canwell side. Belayed here. Walked ridge from east summit to true summit. Ridge narrow and corniced. Summit very sharp ridge. Very fine view in all directions. Wrangells visible to south; Hayes, Shand, etc. to



George Schaller climbing a steep snow pitch



Heading up Rainbow Ridge. Top to bottom: Swenson, Schaller, Keller



The Great Cirque. The high camp (two tents) is invisible in the distance at the center of the picture



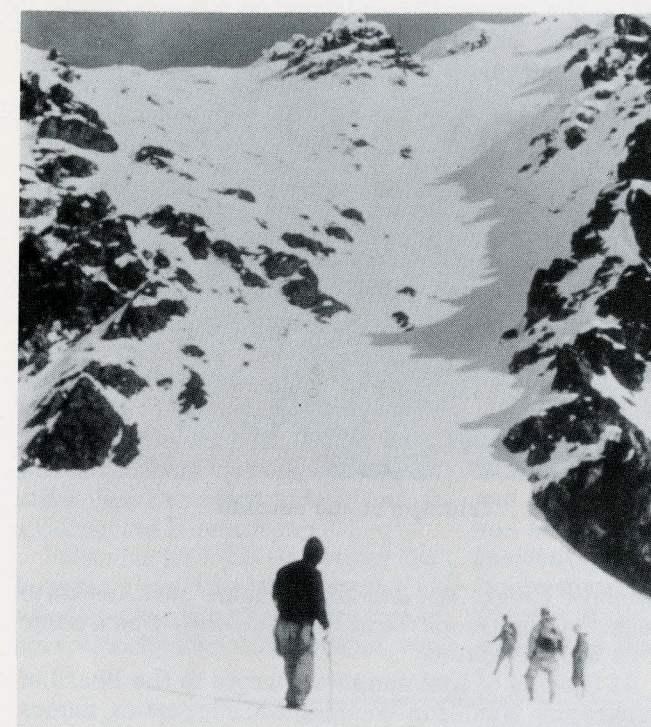
Phil Bettler (top) and Keith Hart negotiating a corniced ridge.



Keller (top) and Bettler nearing the top of Rainbow Ridge



Keller (right) and Hart on the descent of the summit ridge



The climbing team contemplating the route



The descent from Institute Peak. Summit in background

northwest; Silvertip, Kimball, White Princess to north. Started down at 2:00 PM, belaying twice because of steepness, balling snow on crampons, and incipient avalanche. Arrived camp 6:00 PM and car 10:30 PM in darkness.—

Two weeks after the reconnaissance we were back at the Hacienda Friday night, to rest up for an early start up the mountain next day. This time the original three were joined by Keith Hart and George Schaller, undergraduates at the university and expert climbers. This time we brought our snowshoes in addition to the usual arctic survival gear and climbing apparatus. At the crack of dawn we again drove to Mile 210 and headed up Rainbow Ridge. With the benefit of our earlier experience we were able to avoid some of the ups and downs of the previous route, and with our snowshoes we didn't get so fatigued in the deep snow. This time we were able to set up our high camp well up against the cirque wall below the summit ridge. Saturday night wasn't as cold as the earlier bivouac and we slept well. Early on Sunday we started up the mountain. The route was extremely steep, but not too difficult. Early on the snow was frozen hard, so the leader of the five-man rope had to cut steps with his ice axe in some places, to give adequate footing. We changed leaders every hour or so to give relief from this hard work.

Climbing a steep snow slope is extremely tiring, as I've described in earlier tales, especially so in situations dictating that the climbers be roped together for safety. We were five on a rope 210 feet long, and it was necessary that we all move together, more or less in cadence. In late morning we reached the ridge overlooking the Canwell Glacier. The view was stunning, the wall on the north side dropping over half a mile as sheer as the side of a skyscraper.

The ridge was also heavily corniced: wind-blown snow built up into large masses hanging out over the void. If one walks on the apparent crest of the ridge, the easiest footing, one is actually on a cantilevered ledge of snow. To avoid this danger it is necessary to walk parallel to the ridge some distance below the crest. The exposure on this ridge was so serious that we belayed each other, a couple of climbers moving at a time while the rest assumed secure stances with ice axes planted deep in the hard snow in order to hold the rope safely if the moving party should fall. Finally we reached the last pitch before the summit, an almost vertical wall of ice into which we cut a regular staircase; only one person could safely move at a time here, so the advance was very deliberate.

I was leading the rope when we finally reached the summit. The peak was so sharp that we couldn't all stand there at once, and so exposed that a couple of us had to stand on the downslope for safety at all times. The view from the summit was awe-inspiring, a vast jumble of peaks, crags, canyons and glaciers in every direction. In the clear springtime air there seemed no limit to the visibility: Mts. Sanford, Blackburn, and Wrangell could be seen on the southeastern horizon, over 150 miles away. The moment was very satisfying; we had, we thought, achieved a summit on which nobody had trod before. Now it was time to face the long slog back to the highway. Even exercising the necessary caution, all roped together, the descent to the high camp was much quicker than the trip up. There we exchanged crampons for snowshoes, broke camp, shouldered our packs, and headed across the cirque toward Rainbow Ridge. Again we had to change to crampons to surmount the ridge; once atop we could glissade cautiously for much of the way down, only to don



The author on the summit

snowshoes to traverse armpit-deep snow in the willow brush for the last quarter-mile to the car.

Once again we experienced the delicious feeling of accomplishment, exhaustion and ravenous thirst that followed a successful climb, at least in those youthful days. On the long drive back to Fairbanks we discussed our experience and conjectured about a name for "our" peak. The official topographic maps showed no name. The locals at the Rapids Roadhouse twenty miles up the highway said it was known as Rainbow Mountain, but the topographic map clearly showed that as quite a different peak at the end of



Triumph at the summit

Rainbow Ridge. We decided to name ours Institute Peak, for the Geophysical Insititue with which some of us were affiliated.

At the end of that summer I wrote to the Board of Geographic Names in Washington, suggesting names for four peaks we'd climbed that year which were unnamed on the charts. No response was received. A few years ago a colleague visiting from Alaska told me that Institute Peak is the accepted local name, but the most recent edition of the 1:250000 topographic map shows it as "Minya Peak". Never mind; it's **our** mountain, whatever they say.

Barry Horowitz Elected MITRE Corporation Trustee

Dr. Barry M. Horowitz of Sudbury, MA, has been elected a trustee of the MITRE Corporation, located in Bedford, MA, and McLean, VA. The announcement was made by James R. Schlesinger, former Secretary of Defense and Energy, and Chairman of MITRE's Board of Trustees, and by Charles A. Zraket, President and Chief Executive Officer.

Dr. Horowitz is MITRE's Executive Vice-President and Chief Operating Officer, responsible for the general management and direction of the company's overall technical, financial, and administrative activities. In addition, he holds the position of Group Vice-President and General Manager of the company's

particular operations in Bedford, which are primarily for the Air Force.

Dr. Horowitz joined MITRE in 1969 and rose through its management ranks in a variety of positions at both the company's Washington Center in McLean and at Bedford headquarters. Programs covered a range of activities from air traffic control in civil systems to strategic command and control systems in the realm of national security. Before MITRE, he held project engineering positions at Bendix Corporation and General Precision.

Barry Horowitz holds a BSEE degree from City College of New York and an MS degree as well as a PhD in electrical engineering from New York University. He is a member of the Eta Kappa Nu and Tau Beta Pi engineering honor societies and former President of the Lexington-Concord Chapter of the Armed Forces Communications and Electronics Association.

Gary David Gray Named President of APCO

Gary David Gray, P.E., Epsilon Theta, '69, (1969, B.S.Eng.-Electrical; 1974, M.S.E.E.) has been elected President of the Associated Public-Safety Communications Officers, Inc. (APCO). He is currently Chief Telecommunications Engineer for Orange County, California, a member of Tau Beta Pi, a Senior Member of IEEE, and has been elected a Fellow of the Institute for the Advancement of Engineering and of the Radio Club of America. He is active in radio spectrum management and frequency coordination for the Public Safety Radio Services, and is active in Amateur Radio at station WB6HUG. He and his wife, Mary, reside in Anaheim, California.

In Memoriam

Nathan Cohn

Nathan Cohn of Jenkintown, PA, died in Scottsdale, Arizona on November 16, 1989. He was 82.

Nathan Cohn, Electrical Engineer, Business Executive and Inventor, was born in Hartford, CT on January 2, 1907. Following graduation from MIT in 1927, he joined the Leeds & Northrup Company of Philadelphia and was with the firm for 48 years. He retired from his position of Executive Vice-President in 1972 and as a Corporate Director in 1975.

Following his L&N Co. retirement, he remained active lecturing at Universities, serving as a Director of several technologically oriented com-

panies, as Senior Partner of Network Systems Development Associates and in volunteer work.

Mr. Cohn was a world renowned authority in the field of control of interconnected electric power systems. He authored ninety technical papers, a textbook and held fifteen patents.

For his inventions, creative contributions and leadership in electrical power system control and the instrument industry, Mr. Cohn was elected to the National Academy of Engineering in 1969. In addition he was awarded the Institute of Electrical and Electronics Engineers Edison and Lamme Medals, The Franklin Institute's Wetherill Medal, the Instrument Society of America's Sperry Medal and the Scientific Apparatus Makers Award. He was

Engineer of the Year in the Delaware Valley in 1968 and in the State of Pennsylvania in 1969 and received an Honorary Doctor of Engineering Degree from RPI.

In addition to service to many national and international engineering organizations, locally Mr. Cohn had served as Chairman of the Board of Managers of the Franklin Institute, Vice-President and Trustee of Eaglesville Hospital Rehabilitation Center and Trustee of Keneseth Israel Congregation.

Mr. Cohn is survived by his wife Marjorie K. Cohn; their five children, Dr. Theodore E. of Berkley, CA.; Dr. David L. of South Bend, IN.; Dr. Anne H. of Chicago, IL.; Dr. Amy E. Cohn-Tucker of New York, NY; Julie Cohn Conner of Houston, TX; and eight grandchildren.

Illinois-Urbana EE Department Receives Commemorative Plaque

The Electrical and Computer Engineering Department, Univer-

sity of Illinois-Urbana, has received a Commemorative Plaque expressing appreciation by the HKN BOARD for the Hospitality shown to HKN through the Housing of the HKN International Headquarters' Office during the thirty-year period 1958-1988 while the late Professor Paul K. Hudson served as Executive Secretary. The event was recorded in the photograph shown below.

Those participating in the commemorative ceremony are from left to right: Dr. J. Robert Betten, Executive Secretary, Mrs. Gertrude H. Hudson, widow of Paul K. Hudson, Mrs. Ethel Williams, Administrative Manager of the Headquarters Office from 1966 to 1988, Dr. Timothy Trick, Head, E & CE Department, and 1989 Alpha Chapter President, Dean L. Sirakides.



**Brainerd Holmes
Elected MITRE
Corporation Trustee**

D. Brainerd Holmes of N. Palm Beach, FL has been elected a trustee of the MITRE Corporation, located in Bedford, MA and McLean, VA. The announcement was made by James R. Schlesinger, former Secretary of Defense and Energy, and Chairman of MITRE's Board of Trustees, and by Charles A. Zraket, President and Chief Executive Officer.

Mr. Holmes is President of Holmes Associates, Inc. and consults with industrial, academic, and government organizations. He retired as President of Raytheon Company in 1986 after 23 years with the company and from its Board of Directors in 1987.

Before Raytheon, Holmes served as the first Director of Manned Space flight for NASA, establishing the organization to lead the national effort to go to the moon. Earlier, as General Manager of RCA's Major Defense Systems Division, he provided technical and management direction of advanced military electronic systems. While with RCA, he also was Program Manager of the Ballistic Missile Early Warning System. Before that, he worked for Western Electric Company and Bell Telephone Laboratories.

Brainerd Holmes holds a BSEE degree from Cornell University and did graduate work at Bowdoin College and the Massachusetts Institute of Technology. He was awarded an honorary Doctor of Science degree by the University of New Mexico and an honorary Doctor of Engineering degree from Worcester Polytechnic Institute.

He is a Fellow of the American Institute of Aeronautics and Astronautics and of the Institute of Electrical and Electronics Engineers as well as a member of the National Academy of Engineering and of Eta Kappa Nu and Tau Beta Pi, the engineering honor societies. He is also a member of the Board of Trustees of Northeastern University.

MITRE's work throughout the Department of Defense is performed under the sponsorship of the U.S. Air Force.

**THE ALTON B. ZERBY
OUTSTANDING ELECTRICAL
ENGINEERING STUDENT AWARD
1989**

**Text by
Marcus Dodson**

**THE ETA KAPPA NU ASSOCIATION
1989**

INTERNATIONAL EXECUTIVE COUNCIL

President	Robert J. Kennerknecht
Vice-President	Robert F. Arehart
Executive Secretary	J. Robert Betten

INTERNATIONAL BOARD OF DIRECTORS

Irving Engelson	David G. Meyer
James R. Rowland	Donald S. Stoica

OUTSTANDING STUDENT AWARD COMMITTEE
Marcus D. Dodson, Chairman

Richard Cockrum	Jimmie D. Huff
William E. Murray	Robert J. Kennerknecht
	Donald S. Stoica

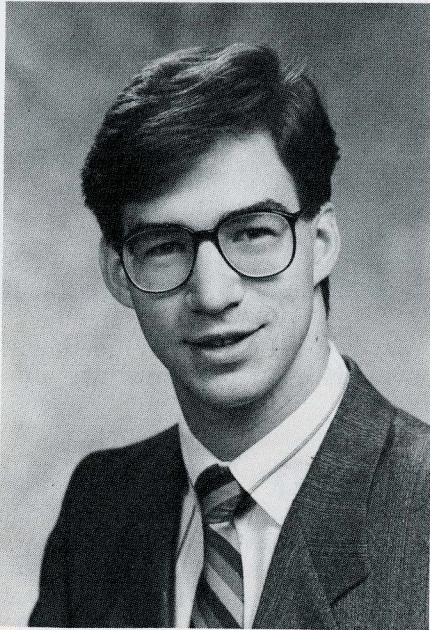
JURY OF AWARD

Michael R. Andrews	Secretary, Region 6, IEEE
Virgil G. Ellerbruch	Junior Past President, HKN
George F. Kujawski	Chairman, Los Angeles Council, IEEE
Fred McKenzie	Director, ECI/ECM

LOS ANGELES ALUMNI CHAPTER

President	Donald S. Stoica
Vice-President/Secretary	Stuart McCullough
Treasurer	Rupert Bayley
Junior Past President	Arthur Sutton

Student Award Winner



**PATRICK SANDY KENNEDY
Winner**

Won expense-paid trip to Emerald of Anaheim Hotel in Anaheim, California and an Award Dinner in his honor, from the Alton B. Zerby Perpetual Memorial Trust established by the Eta Kappa Nu Official Family, and a monetary gift from the Carl T. Koerner Perpetual Memorial Trust established by Edith Ann Koerner.

**THE
ALTON B. ZERBY
OUTSTANDING ELECTRICAL
ENGINEERING STUDENT
AWARD
1989**

PATRICK SANDY KENNEDY graduated summa cum laude with a GPA of 3.99, ranking first in a class of 93 EE seniors, was nominated by the Iota Beta Chapter at Milwaukee School of Engineering. He is a member of IEEE and has been honored with membership in Mu Sigma Epsilon as well as Eta Kappa Nu.

With others, he designed an ultrasonic remote data transmission device for use in the telecommunications environment. While with Data Corp. VLSI Division, he conducted a performance evaluation of the production of a new chip and an analysis of ASIC vendors as well as other projects.

Mr. Kennedy was the editor of two campus publications, "The Reference Point", the technical journal of Tau Beta Pi, the "Ingenium", the campus newspaper, and has edited other campus publications. He arranged for students to use the facilities of a local health club. His summer of '87 was spent as a volunteer in an orphanage in Mexico and he still supports two children there.

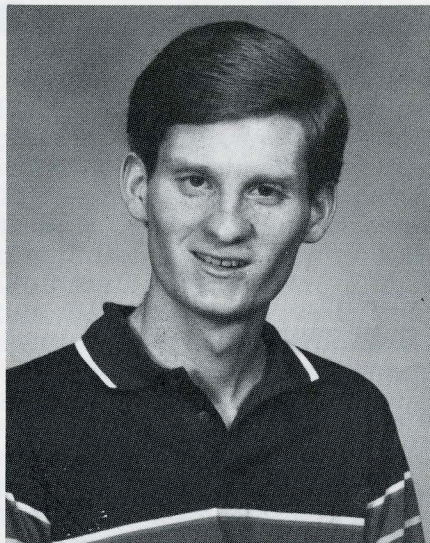
The Hewlett-Packard Outstanding Electrical Engineering Junior Award was bestowed on Mr. Kennedy. His graduate study for a Ph.D. will be at Stanford University on a National Science Foundation Graduate Research Fellowship.

His hobbies are photography and the study of the Mexican Culture. He is very interested in health through physical fitness.

FINALISTS 1989

Choc Hing Gan	Purdue University
Ann Hsu	Penn State University
Toufie R. Mazzawy	Stevens Institute of Technology
Andrew Joseph Roy	University of Maine

HONORABLE MENTION

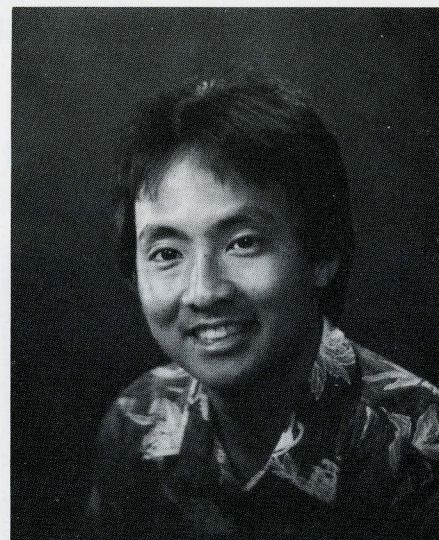


David Shane Barwick
Honorable Mention

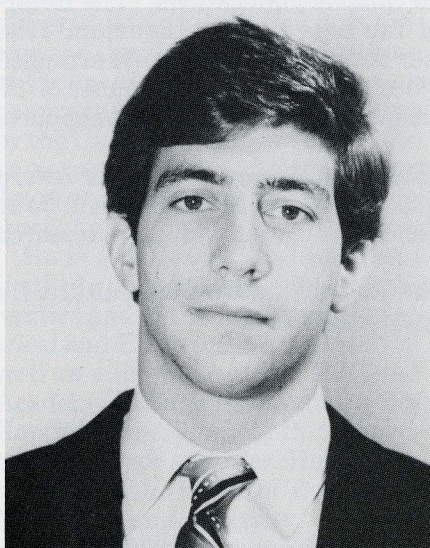
**THE
ALTON B. ZERBY
OUTSTANDING ELECTRICAL
ENGINEERING STUDENT
AWARD
1989**



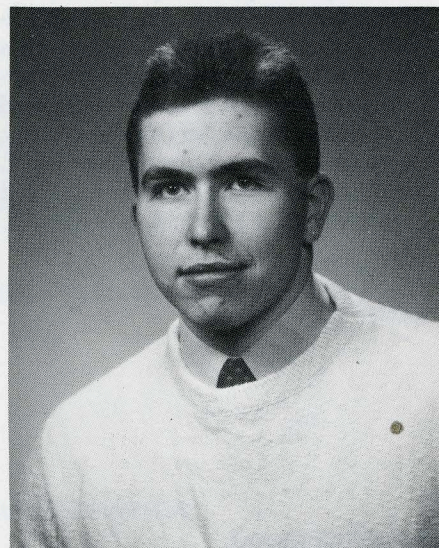
Karen Sue Anderson
Honorable Mention



Daniel Hiroki Chinen
Honorable Mention



John David Graf
Honorable Mention



Ronald J. Szabo, Jr.
Honorable Mention

MEMBER

Beta Psi Chapter, Nebraska-Lincoln

Karen Sue Anderson graduated summa cum laude with a GPA of 3.97, ranking fourth in her class of 195 EE seniors, was nominated by the Beta Psi Chapter at the University of Nebraska, Lincoln. She is a member of IEEE and was honored with membership in Tau Beta Pi, Golden Key and Eta Kappa Nu.

She has presented papers to the NASA Lewis Research Center and the '89 Midwest Symposium on Circuits and Systems. Miss Anderson's natural leadership showed in her activities both in school and the community. She organized financial support and work parties to build an orphanage playground.

MEMBER

Beta Mu Chapter, Georgia Tech

David Shane Barwick graduated summa cum laude with a GPA of 4.0, ranking first in his class of 530 EE seniors, was nominated by the Beta Mu Chapter at the Georgia Institute of Technology. He is a member of IEEE and was honored with membership in Phi Kappa Phi and the Golden Key Honor Society as well as Eta Kappa Nu.

Mr. Barwick was a member of a team developing radar signal processing algorithms for Litton Applied Technology. He plans, after attaining a PhD., to pursue a career in research. His primary interest is in optical techniques as applied to communications and computers.

MEMBER

Delta Omega Chapter, Hawaii-Manoa

Daniel Hiroki Chinen graduated summa cum laude with a GPA of 3.80, ranking ninth in a class of 65 EE seniors, was nominated by the Delta Omega Chapter at the University of Hawaii-Manoa. He is a member of IEEE and was honored with membership in Phi Eta Sigma, Mortar Board as well as Eta Kappa Nu.

He assisted in the McDonnell Douglas MD-11 Flight Simulator and documented simulation databases. While in school he organized "Career Night," an opportunity for EE students' prospective employers and "Engineering Fair"—both are expected to become a tradition at the University of Hawaii.

MEMBER

Theta Rho Chapter, Rice

John David Graf graduated summa cum laude with a GPA of 3.90, in a class of 81 EE seniors, was nominated by the Theta Rho chapter at the Rice University. He is a member of IEEE and was honored with membership in Tau Beta Pi and Eta Kappa Nu.

His Senior Honors Project was entitled, "Storage and Communication Mechanisms for Shared Virtual Memory Multiprocessors." While working as an Intern at National Instruments, Mr. Graf independently designed NI's GPIB-LPT printer adapter, including the test program, reference manual and parts list. He was a member of the Rice marching band and captain of the Varsity swim team.

MEMBER

Epsilon Eta Chapter, Rose-Hulman

Ronald J. Szabo, Jr. graduated summa cum laude with a GPA of 3.99, ranking first in his class of 101 EE seniors, was nominated by the Epsilon Eta chapter at the Rose-Hulman Institute of Technology. He is a member of IEEE and was honored with membership in Tau Beta Pi, Upsilon Pi Epsilon as well as Eta Kappa Nu.

He co-authored a solar powered vehicle proposal which was accepted by General Motors for Rose-Hulman to participate in the 1990 GM Sunrayce USA. Mr. Szabo received the General Electric Award for the IEEE Outstanding Student Member.

Iota Sigma Chapter Installed Temple University

by
George Balderston and Dennis Silage



Dr. Charles Alexander at left and Dr. Dennis Silage explain meaning of components of Eta Kappa Nu Shield during Initiation Ceremony



Charter Chapter Members of Iota Sigma Chapter being inducted at Temple University

The newest engineering school in the Philadelphia, Pennsylvania area has been established at Temple University with both undergraduate and graduate degree programs in Electrical Engineering. Capping this achievement for the faculty was the formation of the Iota Sigma Chapter of Eta Kappa Nu.

On Friday, May 12, 1989, Iota Sigma Chapter was installed at Temple University. There were twenty-two charter members. The Installation and Initiation Ceremony was accompanied by dinner for members and guests. It was a gala banquet held in the Engineering Building.

The Ceremony began with the Introduction presented by George Balderston, Past International Director, who instructed the initiates on the requisites of membership in HKN. The Initiation Ritual was conducted by Donald Stoica, International Director, acting as Wheatstone. The parts of Faraday, Ampere, Ohm, and Volta were taken by Dr. Dennis Silage, Dr. Charles Alexander, Dr. Victor Schutz, and Mr. Amir Makki, respectively. At the conclusion of the ritual Mr. Stoica declared Iota Sigma Chapter duly installed.

Dr. Dennis Silage is the Chapter Advisor. The Charter Members of the Iota Sigma Chapter are: Jeffrey Boyle, David Cooley, Quan Dinh, Andrew Dolan, Robert Finnocchio (Secretary), Kenneth Guaragno, Robert Heiman (Treasurer), Cynthia Jennings (Vice-President), Mark Kalbach, Thomas Knappik, Maria Mazzara,

Patricia McGough, Reuven Meth (President), Hung Nguyen, Nhan Nguyen, Kathleen O'Brien, David Schweitzer, James Stamm, James Tracey, Ronald Unterberger, Mary Elizabeth Yanak, and Dr. John Helferty.

Twenty-one undergraduates and one faculty member were initiated at the ceremony. The open proceedings were attended by spouses, parents and friends. Dr. John Helferty, who was an undergraduate student at Temple and is now on the faculty, was inducted with a special note of the significance of a former student now returning as a teacher.

Afterward, Dr. Fred Higgins, Dean of the College of Engineering and Architecture, spoke briefly congratulating the new members and indicating his pleasure at having Eta Kappa Nu at Temple.

Finally, Dr. Charles Alexander, Chairman of the Department of Electrical Engineering, told the initiates that they will be graduating into an exciting era of expanding technology such as has never before been experienced. He pointed out that their membership in Eta Kappa Nu was an honor not only to them but also to Temple. He suggested that they should endeavor to increase their communication skills and continue to learn throughout their careers.

Since the Installation was held at the end of the school year, Iota Sigma Chapter began functioning with the election of officers in the Fall.

MARK H. SOMERVILLE

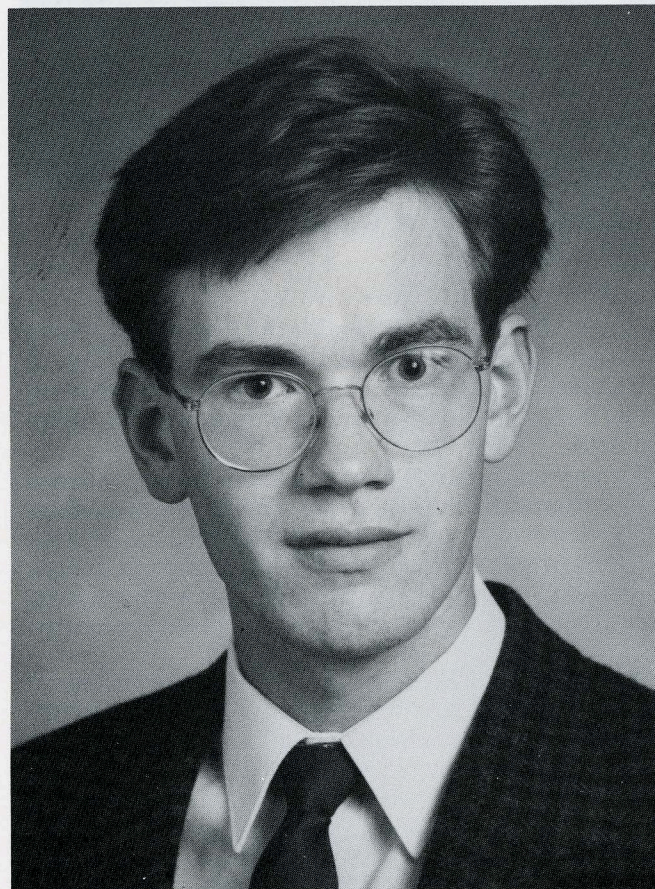
WINS

NORMAN R. CARSON AWARD

AS

OUTSTANDING EE JUNIOR

by Jo Dale Carothers, Chairperson, Award Selection Committee



Mark Harold Somerville was the 1988 Winner of the Norman R. Carson Outstanding Electrical Engineering Junior Award. He is a member of Eta Kappa Nu's Psi Chapter at the University of Texas at Austin.

The Runner-up was Gregory Henderson, Member Gamma Nu Chapter, Texas Tech University. Those

awarded Honorable Mentions were Alison Gotkin, Gamma Delta Chapter, Worcester Polytechnic Institute; Angela Longo, Iota Beta Chapter, University of Dayton; and Daniel Chinen, Delta Omega Chapter, University of Hawaii.

The award was presented to Mark on November 12, 1988 at the Fall Semester Student-Faculty Mixer held by Psi Chapter and attended by more than 100 faculty, students, new pledges and guests.

Each year Eta Kappa Nu honors a junior in electrical engineering for his or her scholastic and technical achievements, leadership ability and community service. The objectives of this award program are to recognize a student's ability to lead, persuade and to influence the actions of others as well as to recognize his or her diligence, intelligence and technical competence.

In Mark's case he has maintained a straight A average and participated in many service and societal activities. In Eta Kappa Nu he has served as Bridge Correspondent, Student Engineering Council Representative, Chairman of Publicity for the Fall 1988 Semester, Chairman of Registration for Spring 1988, Member of the Tutoring Committee and of the Calling Committee as well as a participant in the Community Service Program. He is also a Member of Tau Beta Pi, Mortar Board, and Phi Kappa Phi.

He is engaged in a dual degree plan—pursuing a Bachelor of Science degree in EE and a Bachelor of Arts degree in Plan II Liberal Arts. Plan II is a small Liberal Arts honors program at UT; the program emphasizes writing skills and a well-rounded curriculum. In addition to the Plan II degree, Mark will receive a concentration in English Honors, a program which includes the writing of a year-long thesis.

On the Residence Assistant Council, Somerville has served as Director of Campus and Community Service in which he coordinated a residence hall Thanksgiving Food Drive, a Resident Assistant Blood Drive and residence hall participation in Special Olympics Volunteer

Program. Also on R.A. Council he has served as Chair of Community Service and Parliamentarian. His job as Resident Assistant entails counselling, administrative and disciplinary duties in on-campus housing.

Mark has also served as Vice-President of Tejas Club and served on three of the club's working committees: Finance, Independence Day and Gardening. Membership criteria for this social/service club (founded at UT in the 20's) are leadership, friendship and scholarship. Membership in Tejas Club is by unanimous vote of current members.

He has also been recognized as Distinguished Scholar, as Engineering Scholar and has been selected for Dean's List in both Engineering and Liberal Arts. His honors include Anna N. King Endowed Liberal Arts Foundation Scholar, Institute of Nuclear Power Operations Scholar, Allan Boger Friend of Alec Scholar, Ernest Cockrell Jr. Scholar and National Merit Scholar.

In the area of technical achievement, Mr. Somerville

has performed free-lance programming, including development of a machine language arcade game for commercial distribution. Other achievements include development and debugging of data acquisition systems, including design of low cost, high accuracy digital thermometers for calorimeter work. He received summer job experience at North Dakota Research Center through projects which focused on coal slurry utilization. His work included design and purchasing of data acquisition systems for Gas Turbine Simulator and Single Stroke Diesel Simulator, in addition to other smaller projects involving computer interfacing and the writing of device driver software. Summer work at Texas Tech's Optical Systems Laboratory included development of optical computing algorithms and design of an early detection system for glaucoma utilizing computer aided photo analysis. This work entailed the set up of experimental equipment, purchasing, programming and photographic work.

Editor's Note: BRIDGE was pleased to learn recently that Mark Somerville has been chosen to be a RHOADES SCHOLAR and plans to attend Oxford. The Norman R. Carson Award committee expresses warmest congratulations and continued best wishes to Mark.

CHAPTER ACTIVITIES

Annual Report Zeta Zeta Chapter The University of Akron

Officers for the 1988-1989 year: President, Shawn Turskey; Vice President, Dennis Hardesty; Secretary, Anne Bayonett; Treasurer, Doug Greenhorn; Faculty Advisor, Dr. G. Danielson. No. of Members, 25; No. of New Initiates, 33; No. of Business meetings, 80.

The main goal of this year's officers was to establish a foundation for Eta Kappa Nu. The foundation is a folder that will hopefully make HKN a stronger and larger association at The University of Akron. This folder consists of an outline of the activities and events from the past year, as well as information pertaining to individuals to contact, forms to com-

plete, deadlines to meet, and officer job descriptions. We have worked hard this past year to ensure that a strong foundation was established, and we hope that the future organizations of Eta Kappa Nu will benefit from our work. For this year's Annual Report, we have enclosed a small sample of our foundation.

Along with some of the events that have transpired throughout the year, we are especially proud of four accomplishments:

1. First year to Receive University funding.
2. First year to Establish a Seminar Program.
 - a. Graduate School Information
 - b. Elective Seminar
3. First year to Establish a High School Program.
 - a. Senior Engineers visit area high schools to share their College experiences.

4. Continued success with our Tutoring Program.

President's Job Description

General Description: To ensure that all events and activities are well planned and organized. To maintain good communication with the officers in order to coordinate the activities and distribute the workload evenly. Please remember that you are responsible for the success or failure of the organization.

Procedures:

a. The main responsibility of the President is to ensure that new members and officers for the following year are properly inducted into Eta Kappa Nu and that an Initiation-Banquet Ceremony be conducted. If this does not transpire, Eta Kappa Nu will cease to exist at The University of Akron.

b. To ensure that the Vice-President is properly coordinating the volunteer tutoring program, and to provide assistance if needed.

c. To ensure that the Treasurer is keeping track of the accounts. Also, to ensure that the proper forms are completed and submitted in order to receive funding from the University (EAF funds). There will be a meeting early in the Fall which the President and Treasurer must attend to receive applications and information pertaining to the deadlines and rule changes.

d. To ensure that the Secretary maintains contact with National and sends formal letters to the new initiates, their parents, and the faculty.

e. To provide any service to the Faculty, the Students, or The University of Akron that may arise throughout the year. The services that have been provided in the past are outlined on the following pages.

f. To ensure that a "Class Gift" is purchased. In the past HKN has joined with IEEE and IEEE Computer Society to purchase a larger gift. Please remember this gift should be for the students, and not a particular faculty member.

g. To participate in the Engineering Officers Council. This is an excellent opportunity to voice your opinion to the Dean of Engineering or to coordinate large events between Engineering Organizations (Engineer's Brawl, Engineering Week, High School Program).

h. To ensure the *Foundation* is kept up-to-date, and that it will be used to make Eta Kappa Nu a stronger organization in years to come.

Services

Graduate Seminar. (Fall Semester, December 1) Answered questions about Graduate School at Akron as well as in general. All of the faculty members participated and approximately 75 students were present. The Seminar was a great success.

Elective Seminar. (Fall and Spring) Discussed the pros and cons of the electives offered at The University of Akron. A large majority of the Junior class was present.

Future Seminars such as How to Study in College, Future Job Openings, Technical Seminars on Microprocessors, the latest Space Shuttle Plan (NASA), Flight Simulators or Defense Systems (LORAL), Expert Systems (artificial intelligence).

Remember—This is the first year HKN has been allocated money to provide seminars for the students.

Placement Office for Hiring. (Fall) It is very important that all Seniors contact the Placement office (Simmons Hall) to fill out their resumes and apply for interviews AS SOON AS POSSIBLE. Since they do not publicize very much, it would be nice if HKN would make a few announcements and post a few signs.

Engineering Career Day. (Fall, Oct. 20) Several area companies set up a booth in GSC and talk to interested Seniors. Once again, HKN should publicize this event.

Selling of Laboratory Manuals

PSPICE manuals will probably be needed in the beginning of Fall and Spring Semesters. Contact the professors to determine when they need to be sold. The competition is the Bookstore's version of PSPICE,

which does not contain high quality sample programs.

Controls Lab Manuals need to be sold in the beginning of the Spring Semester; HOWEVER, you must contact the Controls I professor before the end of the Fall Semester to compile the manuals!!!

Both manual sales are profitable. It is required that you raise 1/3 of what you ask for from the University funds.

Engineering Phonathon. (Fall, approximately Nov. 1) Help participate in calling past graduates to raise money for the College. You will be contacted when the time comes.

Engineer's Brawl. (Fall, Oct. 28) Work with Engineering Officers Council. Participate in planning.

Engineering Week Contest. (Mighty Magnet Contest) This is a week-long event in the Spring (Feb.). Once again, this will be planned through the EOC. This year HKN sponsored the Mighty Magnet Contest.

In Closing . . .

The University of Akron Zeta Zeta Chapter of Eta Kappa Nu would like to thank National Headquarters for their support and hard work. We sincerely hope that our organization will become stronger and grow in the years to come, and are especially grateful that our National Headquarters has a very strong foundation to aid us in our quest.

Thank You,
Shawn G. Turskey
President 1988-89
Zeta Zeta Chapter
The University of Akron