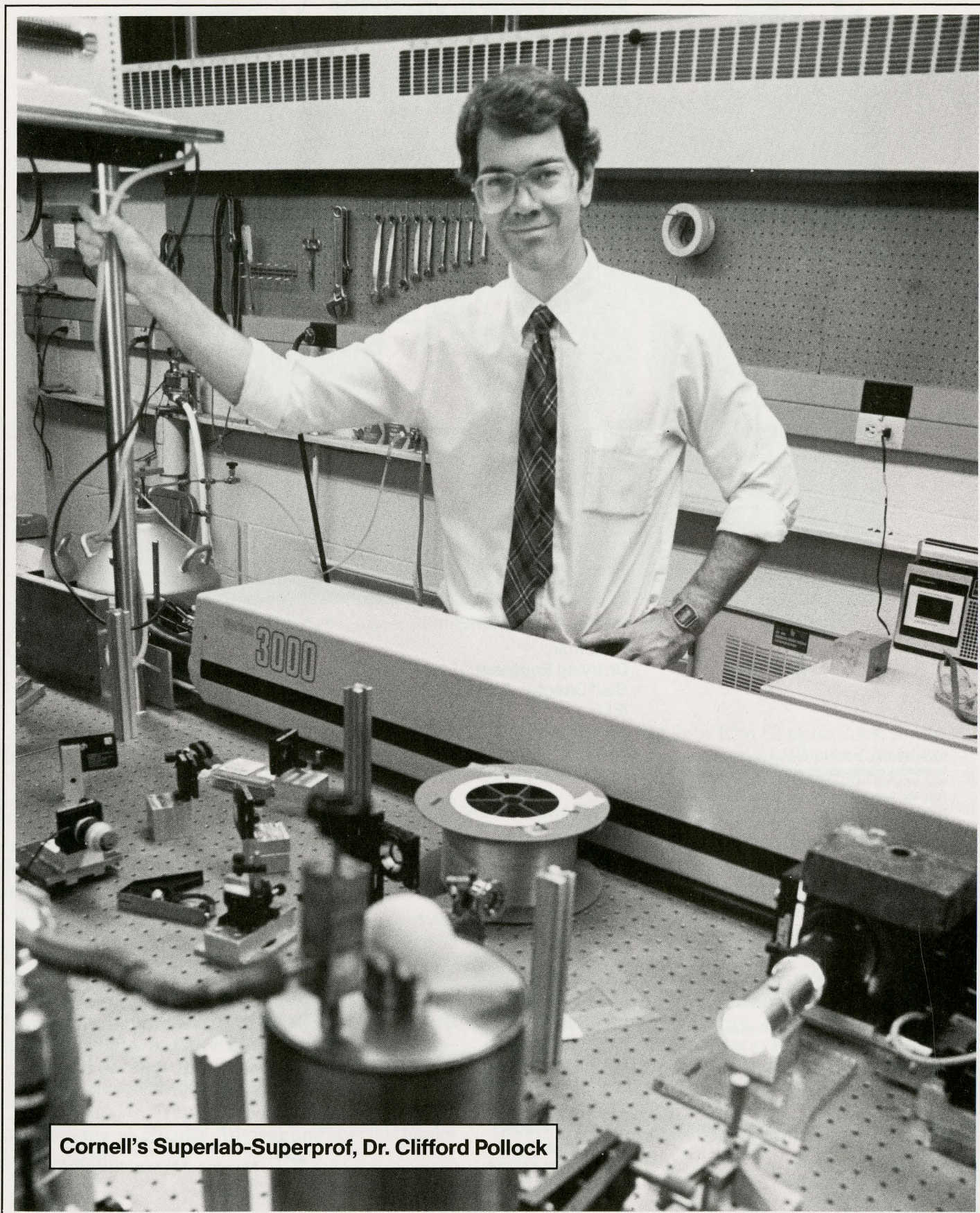
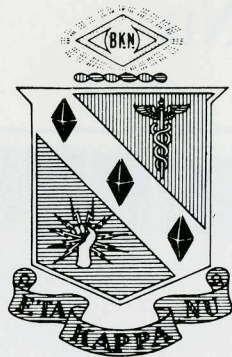




BRIDGE of Eta Kappa Nu



Cornell's Superlab-Superprof, Dr. Clifford Pollock

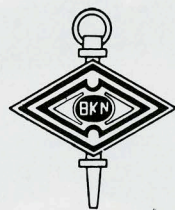


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J. Robert Betten

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Irving Engelson
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Iota Rho Chapter Installed University of New Orleans



Charter Chapter Members and Initiating Officers

The education of engineers who have a strong background in the humanities as well as in the social, pure, and applied sciences has been the goal of the Electrical Engineering Department of the University of New Orleans since its inception. It is in this spirit that the members of the newly formed Iota Rho Chapter of Eta Kappa Nu take great pride in announcing the installation of their chapter on Saturday, April 22, 1989.

This occasion was marked by the initiation of seven faculty members, two graduate students, and twenty undergraduates. Former Eta Kappa Nu President, Dr. Paul Jacob of Mississippi State University, gave an inspiring speech on the history and philosophy of Eta Kappa Nu. After the ceremony and photographs, initiates and their guests celebrated at a banquet held on the UNO campus.

Thanks to Dr. Francis Grosz (Alpha Chapter) for his guidance as Faculty Advisor and special thanks to Dr. Jacob.

The members of Iota Rho Chapter look to the future with confidence and will work hard to uphold the high standards of Eta Kappa Nu.

Eta Kappa Nu Charter Members Spring 1989 are: Thanh Huong T. Cao, Damon Michael Templet, Lee Yu Leon (Treas.), Michael T. James, Mohammad K. Nehal (R. Sec.), DeLease Smith, Mike Murphy (Corres. Sec.), Harry J. Thompson, Khoi Hong (V. Pres.), Charles Dominique, Terence Michael Clifton, Ron Kennedy, Timothy J. Kern, Arthur Hanzo, Christian Gardner, Robert Drackett (Bridge Cor.), Ricky Sanborn (Pres.), Thao T. Le, Kent Grahame Merritt, Joseph Davenport. **Graduate Student Members:** Kenneth J. Broussard, Charles Joseph Ledet. **Faculty Members:** Dr. Rasheed M.A. Azzam, Dr. Russel E. Trahan Jr., Dr. Terry Edmund Riemer, Dr. Richard R. Bishop, Gregory McGar, Henri A. Alciatore, Christopher D. Jurado.

Chapter Iota Upsilon Installed University of Washington-Seattle



Charter Presentation
Dr. Endrik Noges presents charter to Dr. Jim Ritcey

The University of Washington Iota Upsilon Chapter of Eta Kappa Nu was installed on May 25, 1989. The formal ceremonies were held at the Student Union Building on the campus. The reception was held immediately following.

The chapter charter was presented to Dr. Jim Ritcey by EE Chairman, Dr. Endrik Noges.

The initiation was performed by alumni members Drs. Endrik Noges, Jim Ritcey, Mark Damborg, Dean Lytle and graduate students Kristi Rodenhiser, and Chao-Li Tarng.

Immediately following the ceremonies, the new Officers elections were confirmed. The new Officers are:

President:	Ashok Kumar
Vice-President:	Monica Caoili
Treasurer:	James Pak
Corresponding Secretary:	Brian Wilson

Recording Secretary:	Darwei Kung
Bridge Correspondent:	Matthew Gordon
Faculty Advisor:	Dr. Jim Ritcey

Two new officer positions were created:

Project Director:	Lawana Quayle
Faculty Liason:	Michael Uhl

The Iota Upsilon Chapter includes 19 faculty members, 15 previous members, and 26 new initiates.

The new Initiates are: Joan Anastasio, Monica Caoili, Albert Cheng, Ong Chi Kang, Vincent Chung, Thai Dang, Mai Dao, James Eng, Hollis George, Matthew Gordon, Darrin Guimond, Xiao Huang, Kok-Ming Koh, Ashok Kumar, Darwei Kung, Michael Locke, Hoang Ong, James Pak, Paul Pong, William Pong, Lawana Quayle, Karen Tang, Michael Uhl, Larry Wiedenhoft, Brian Wilson, Hsi-Jung Wu.



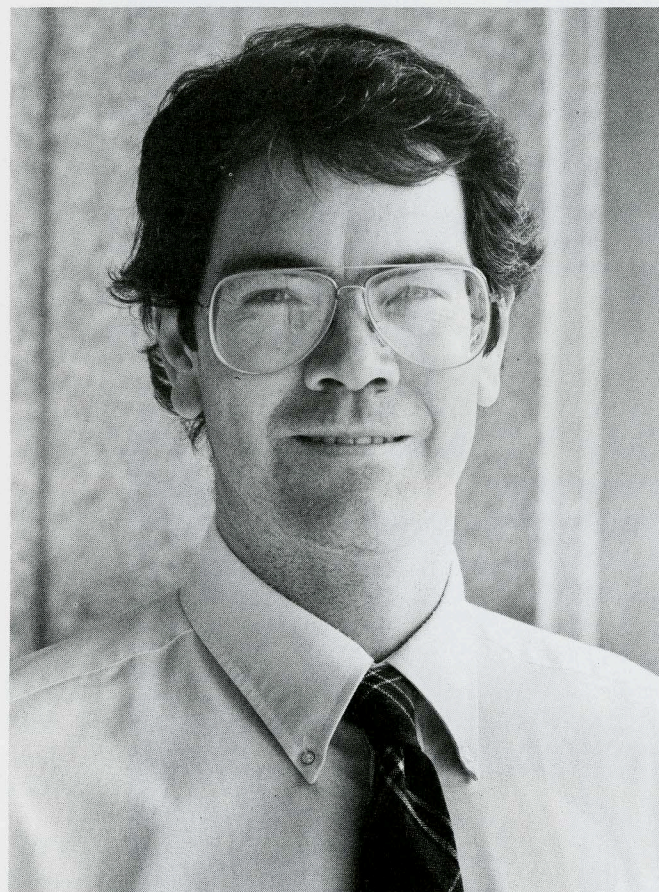
Officers left to right: Lawana Quayle, Matthew Gordon, Brian Wilson, Monica Caoili, Ashok Kumar, Darwei Kung, James Pak, and Michael Uhl.



New Initiates and Initiation Team

THE C. HOLMES MacDONALD OUTSTANDING TEACHING AWARD

by C. Richard Johnson, Past Winner



Clifford R. Pollock
Cornell University

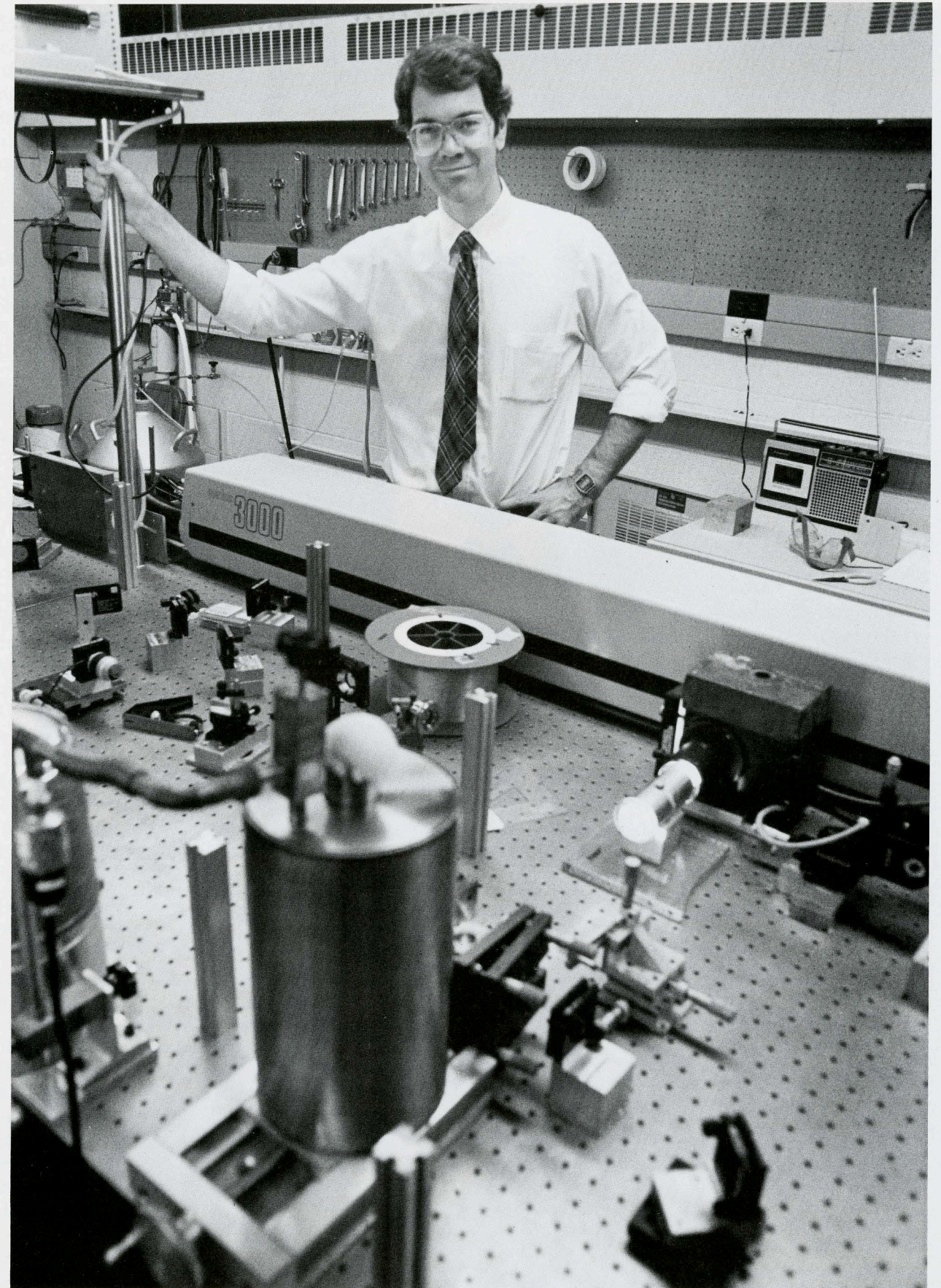
The C. Holmes MacDonald Award was presented to Dr. Clifford R. Pollock at the annual student-faculty banquet. This banquet is sponsored by the local chapters of the IEEE student branch and HKN. The audience included about 150 junior and senior electrical engineers, as well as approximately 20 faculty and their spouses.

Professor Jack Mitchell of Penn State University drove to Ithaca that day to present the award. After being introduced to the audience, Jack made some general comments concerning his pleasure in being invited to Ithaca. He then described some aspects of Eta Kappa Nu that the students might not be aware of, and specifically mentioned the C. Holmes MacDonald Award which is made annually to an outstanding young electrical engineering professor in the U.S.

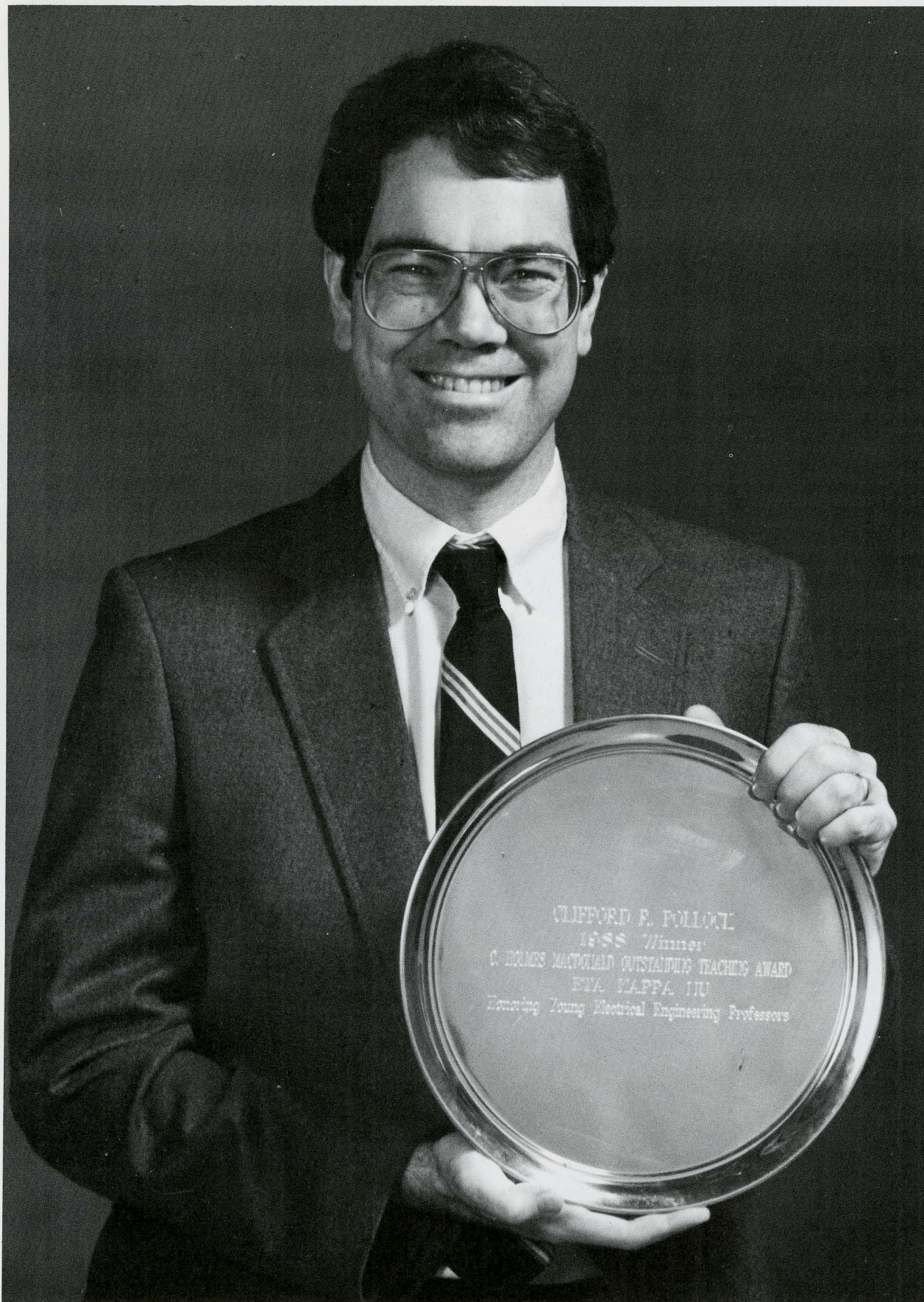
At this point the students were probably expecting to hear a 'motherhood' speech on the virtues of staying active in HKN, but when Jack said "I have come here to present the 1988 C. Holmes MacDonald Award to a member of the Cornell faculty tonight," one could feel the anticipation in the room rise. Having artfully set the stage, Jack announced Professor Pollock's name, upon which there was an enthusiastic outbreak of standing applause and cheering.

Jack first presented the pewter plate that was inscribed with Pollock's name and the name and date of the award. Jack commented about the conversations he had shared with some students prior to the dinner. He said that the students had mentioned many times a course called "Superlab", which they all had taken from Professor Pollock over the past two years. "From what I have been told," Jack said, "you clearly have a *Superprof* for *Superlab*".

Again the students enthusiastically endorsed the speaker. Finally, when Jack read the certificate that accompanies the award, and with special emphasis read that the award is given annually to just one outstanding young electrical engineering professor "in the United States of America", the students and faculty again stood in applause, realizing that this award was both an honor for Pollock and for Cornell.



Dr. Clifford Pollock in the special laboratory which he developed in the Department of Electrical Engineering at Cornell University.



C. Holmes MacDonald Award Winner, Clifford Pollock, holds pewter plate with commemorative inscription which he received as a memento of the occasion.

Pollock was visibly moved by the event, and was at a loss for words but finally spoke briefly. He said that he felt very honored to receive the award, and thanked all of the students for their enthusiastic work in his course. Were it not for the enthusiasm and hard work of the students, said Pollock, Superlab, or any other course for that matter, would never be a success.

Following the awards, there were a number of skits put on by the students, parodying various aspects of their professors and courses including Superlab. It was apparent that the student organizations in the Cornell electrical engineering school are healthy and active, and full of bright, enthusiastic young people.

In the area of Research, Professor Pollock works with tunable infrared lasers. While at the National Bureau of Standards, he developed an ultrastable narrowline color center laser for frequency metrology in the $2.3 \mu\text{m}$ region. His measurements led to a new international standard for the meter. At Cornell, his research has involved the development of new infrared lasers. His research led to the discovery and development of a new class of tunable lasers based on the $\text{F}_2 + :0_2^-$ color center. This new type of laser is being patented, and is now being offered commercially. Present work is directed at extending the tuning range of infrared lasers beyond $3.6 \mu\text{m}$, and in generating ultrashort optical pulses using nonlinear effects in optical fibers. Recently, his group has developed a new method for generating stable optical pulses with 80 femtosecond (80×10^{-15} sec) temporal duration. These pulses will be used for studies in ultrafast relaxation processes, such as energy transfer between molecules, and electron scattering in semiconductors.

Dr. Pollock's research career has been especially productive. While serving as a Postdoctoral Fellow at the National Bureau of Standards he contributed to fundamental work on the use of lasers in metrology. This work resulted in an order of magnitude improvement in the standard of length. Since his arrival at Cornell University, he has built up a \$500,000 per year research program with 7 MS/PhD students. His recent research has included the development of the first NaCl color center laser. This is a very important discovery since the laser operation peaks at the center of the pass band of optical fibers.

He was recently promoted to Associate Professor—a richly deserved recognition of his efforts.

Dr. Pollock has made several contributions to education in Electrical Engineering at Cornell University starting with his development of two senior elective courses, EE 430—Lasers and Opti-

cal Electronics, and EE 530—Fiber and Integrated Optics. Both courses have enrollments in excess of 100 students and have laboratory sections. The latter course is new and the former has been completely revised and enrollments now have quadrupled largely as a result of his efforts, his personality, his interest in the students, and his desire to communicate to them his expertise. The two courses provide a combination of engineering science, application, and design which have attracted students from all over the Campus and have contributed substantially to his reputation as an outstanding teacher and to the reputation of the School as a whole.

His major contribution to Electrical Engineering education has been the development of a new junior level required laboratory course emphasizing design and writing in Engineering. The course, EE 315, has an enrollment of about 180 students and is run in 7 sections so the organization of the course and maintaining student enthusiasm is at best difficult. He has completely revised our introductory circuits course, integrating the computer into the experimentation as a device for data acquisition, manipulation, and experiment control. A new requirement of report writing has been introduced, with a critical review of the writing style (by faculty who have to take a special writing course before assisting in the instruction) an essential feature of the course. Finally, the experiments lead to a mini-design project consisting of the construction of a voltage regulated supply (which has to be soldered on a PC board). Only the broad specifications are provided and the design is left to the student whose final grade depends on delivery of a working unit.

The new features of this course point out the challenge and changes confronting the student. Their response has been enthusiastic support of the course. His work was recognized by the student group in their selection of Cliff as the Outstanding Teacher in the Engineering College—an award administered by Tau Beta Pi and funded by the Cornell Society of Engineers. There are 220 faculty members in the College so the recipient has tough competition.

In all his work Cliff is modest, unassuming and is well liked and respected by his students and his peer group. As may be seen from his resume, he has served as the Chairman, Vice-Chairman and Secretary of the local IEEE Section. He has also been invited to serve in the review group for the New York State Center of Excellence in Telecommunications at the Polytechnic University of New York. Within the School he has served on the departmental Policy, Curriculum and Standards, and Safety Committees.

Glynis Hinschberger Elected Society President

Glynis Hinschberger, P.E., assumed the office of President of the Society of Women Engineers (SWE) on July 2 during the 1989 SWE National Convention/Student Conference in Oakland, California.

Hinschberger is Manager of Transmission Planning for Northern States Power in Minneapolis. She has been with NSP since 1977. Her staff is responsible for transmission development in the utility's service area, which includes portions of Minnesota, the Dakotas, Wisconsin, and Michigan. In addition, she chairs the Reserve Requirements Task Force for the Mid-Continent Area Power Pool, comprised of 27 electrical utilities in the Upper Midwest. This task force is charged with determining the long-range electrical generating capacity needs that each utility must meet to ensure that customers will have reliable energy supplies.

Hinschberger received her BS and MS degrees in electrical engineering in 1976 and 1977 respectively, from Iowa State University. Her community activities have included Junior Achievement's Project Business and the University of Minnesota's "Technically Speaking" program for high school girls considering engineering careers. She is actively involved in "Project Link" in Minnesota which seeks to change the perceptions of fourth, fifth and sixth grade students and their teachers about the appropriateness of scientific and mathematical careers for women.

Glynis was selected as one of SWE's Distinguished New Engineers in 1987. A member of IEEE, she was chosen IEEE Twin Cities Section's Young Engineer of the Year in 1988. She is also a member of the American Association for the Advancement of Science, and a life member of Eta Kappa Nu.

The Society of Women Engineers is a non-profit educational service organization of graduate engineers and women and men with equivalent engineering experience, dedicated to the advancement of women in the engineering profession.

THE ALTON B. ZERBY OUTSTANDING ELECTRICAL ENGINEERING STUDENT AWARD 1988

Text by
Marcus Dodson

THE ETA KAPPA NU ASSOCIATION 1988-89

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JURY OF AWARD

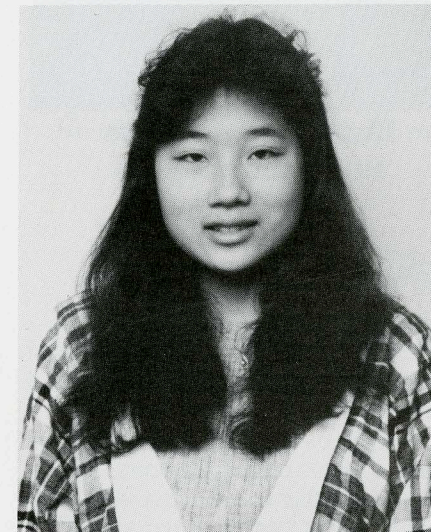
John J. Guarrera	Past President, IEEE
William Hartmann	Chairman, Los Angeles Council, IEEE
Harold K. Knudsen	Junior Past President, HKN
Allen Stubberud	Director, National Science Foundation

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Treasurer	Rupert Bayley
Junior Past President	Arthur Sutton

Student Award Winner

THE ALTON B. ZERBY OUTSTANDING ELECTRICAL ENGINEERING STUDENT AWARD 1988



EMY TAN
Winner

Won expense-paid trip to Marriott Lincolnshire Resort and an Award Dinner in her honor, from the Alton B. Zerby Perpetual Memorial Trust established by the Eta Kappa Nu Official Family, and a gift of \$1,000.00 from the Carl T. Koerner Perpetual Memorial Trust established by Edith Ann Koerner.

EMY TAN graduated summa cum laude with a GPA of 5.0/5.0, ranking first in her class of 335 EE seniors, was nominated by Alpha Chapter at the University of Illinois. She is a member of IEEE and the Society of Women Engineers and has been honored with membership in Tau Beta Pi, Phi Kappa Phi, Golden Key and Eta Kappa Nu.

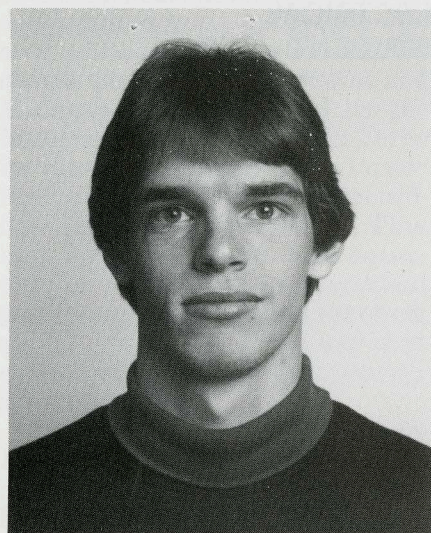
She, with another student, created the "RTX Vision System" that gives an industrial robot a window of vision within which it can automatically pick up objects, and they wrote the user's manual for the system. This was an honors project. While at AT&T Bell Labs summer work, she designed a tone detector using switched capacitors technique. In school she was a highly respected teaching assistant.

Miss Tan assisted engineering students in selecting suitable fields of interest and pre-engineering students by speaking in high schools. She was a leader in campus technical organizations as well as social and intramural athletic events. She has been a champion of the handicapped both on campus and in the community.

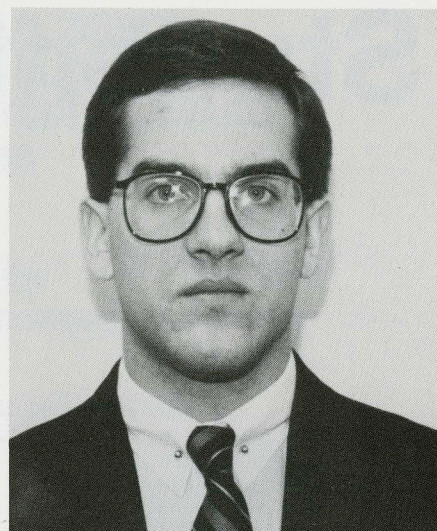
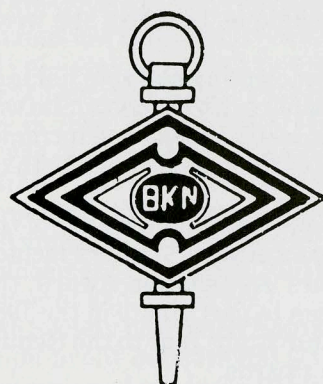
She has received many awards, including one that every reader of the "Bridge" will recognize, the "Marcia Peterman Award." Others include the Fathers' Association Award, the Mothers' Association Award, the Lisle Abbott Rose Award, etc. She was chosen to participate in the 1986 Summer Overseas Chinese Youth Training and Study Tour to the Republic of China. There were many other notable awards.

Miss Tan writes short stories and poetry, and is a philatelist. On the slightly more active side, she plays the piano. On the active side, her participation ranges from ice skating to tennis, all in season. Following graduation in May, she toured Europe.

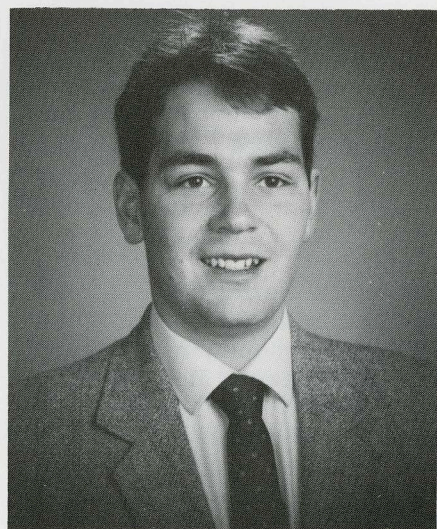
THE
ALTON B. ZERBY
OUTSTANDING ELECTRICAL
ENGINEERING STUDENT
AWARD
1988



Michael Allen Ignatoski
Honorable Mention



Blaine Douglas Johs
Honorable Mention



Eric Kurt Pauer
Honorable Mention

HONORABLE MENTION

MEMBER

Beta Psi Chapter, Nebraska-Lincoln

Blaine Douglas Johs graduated summa cum laude with a GPA of 3.99, ranking third in his class of 199 EE seniors, was nominated by Beta Psi Chapter at the University of Nebraska. He is a member of IEEE and has been honored with membership in Alpha Lambda Delta and Phi Eta Sigma as well as Eta Kappa Nu.

He and another student won first place during Engineering Week in 1987 with their design and implementation of parallel processing hardware and software, then in 1988, with another student, won with their design and construction of an 8-bit discrete component microprocessor.

Mr. Johs tutored fellow students under the auspices of the HKN tutoring program and participated in projects within the College of Engineering and his church.

He has been on the Dean's list for 7 semesters and is a Mortar Board Notable. He received the Regents Scholarship, the Walter Scott, Jr. Scholarship and the National Merit Scholarship.

He enjoys music and the active sports, such as running, skiing and basketball.

MEMBER

Beta Sigma Chapter, University of Detroit

Michael Allen Ignatoski graduated summa cum laude with a GPA of 3.94, ranking first in his class of 66 EE seniors, was nominated by the Beta Sigma Chapter at the University of Detroit. He is a member of IEEE and was honored with membership in Tau Beta Pi, Alpha Sigma Nu and Eta Kappa Nu.

While working at the Environmental Research Institute of Michigan he designed, simulated, debugged and helped design high speed digital image processing circuits and designed board layout for 100 IC designs.

Mr. Ignatoski found time to help his classmates with course work and to tutor local and elementary school children. He served as a Little League umpire.

He has been on the Dean's Honor List each semester and been given the Engineering and Science Key Award each year. He received the "Insignis Scholarship" and the Michigan Competitive Scholarship.

He enjoys outdoor sports of all kinds, music and writing poetry.

MEMBER

Gamma Delta Chapter, Worcester Polytech.

Eric Kurt Pauer graduated summa cum laude with a GPA of 4.0, ranking first in his class of 172 EE seniors, was nominated by Gamma Delta at Worcester Polytechnic Institute. He was a member of the Air Force ROTC and is a member of IEEE and was honored with membership in Tau Beta Pi and Eta Kappa Nu.

He designed a Fourier Series graphics package and a modem for wireless Local Area Communications Network. Upon graduation he became a Second Lieutenant in the U.S. Air Force. He is skilled in several computer languages.

Mr. Pauer, while president of his chapter of HKN, organized a tutoring service for EE students. Also, under the direction of a Professor, he held a seminar style class on calculus at a local High School.

He received the Society of the War of 1812 Award from Air Force ROTC and the American Legion Scholastic Award Gold Medal.

He enjoys astronomy and stamp collecting as well as the outdoor sports of fishing, hiking and skiing.

FINALISTS

Matthew Thomas Busche	University of Missouri, Rolla
Donna Sue McMahon	Louisiana State University
Michael Laurel Peterson	Iowa State University
Leon Roy Roose	University of Hawaii
Barbara Helen Stark	University of Texas, Austin
Lars M. Wells	University of New Mexico

New Brunswick...

OYEE AWARD DINNER

by Irving Engelson
Chairman Award Organization Committee

with photos
by Howard H. Sheppard

1988 marked the 53rd anniversary of the Outstanding Young Electrical Engineer of the Year Award. The awards banquet was held at the Hyatt Regency-New Brunswick in New Brunswick, New Jersey. Mr. James A. D'Arcy, a member of the Award Organization Committee and one of its past Chairmen, was Master of Ceremonies. The key-note address was presented by Dr. Russell C. Drew, 1988 IEEE President.

Dr. Drew addressed some of the problems the United States is facing in the area of industrial competitiveness. He indicated that scientific literacy among the youth must increase and industry must focus more of its efforts on improving manufacturing technology. Dr. Drew specified that there is an increasing awareness that these areas must be addressed if the U.S. is to be successful in a global competitive market.

Those young engineers honored this year exhibited our optimism with their enthusiasm, dedication, engineering excellence, and breadth of interest. The Outstanding Young Electrical Engineer Award for 1988 went to Ronald A. Spanke, Member of the Technical Staff at AT&T Bell Laboratories in Naperville, Illinois. Mr. Spanke was recognized for his "contributions to optical switching architecture, breadth of community activity

and concern for youth." Honorable Mentions were awarded to Dr. Tom T. Hartley for his "contributions to adaptive control theory and system simulation and involvement in church and youth activities" and Dr. Michael A. Isnardi for his "contributions to advanced television systems and his community." Four engineers were recognized as Finalists: Christopher J. D'Ascenzo, Philadelphia, Pennsylvania; Michael P. Gagliardi, Moorestown, New Jersey; Rathin N. Putatunda, Research Triangle Park, North Carolina; and Stanley M. Yuen, Moorestown, New Jersey.

The awards were presented by Dr. Virgil G. Ellerbruch, 1988 President of Eta Kappa Nu. Mr. Howard H. Sheppard, a Past President of Eta Kappa Nu, acted as photographer for the event. Mr. Sheppard has demonstrated his excellent photographic talents during many banquets and we can always rely on his willingness to contribute his photographic talents to these events and the excellence of his products. The banquet was expertly planned by the Recognition Dinner Committee under the Chairmanship of Michael R. Hajny.

Other members of the audience were composed of the Eta Kappa Nu Board of Directors, leaders from industry and academe, and members and friends of Eta Kappa Nu.



Photos: At top, Bell Laboratories' Vice-President, Karl Martersteck, introduces his nominee and OYEE Winner, Ronald A. Spanke. At bottom, HKN President, Dr. Virgil Ellerbruch, describes the commemorative silver bowl and reads inscription as he presents it to Mr. Spanke.



Photos: At top, James D'Arcy, Past Chairman, OYEE Committee, and Master of Ceremonies, presents letter of congratulations from President George Bush to Mr. Spanke. At bottom, Mr. & Mrs. Spanke hold the OYEE Winner's Certificate of Recognition and the traditional engraved silver bowl with its commemorative inscription.



Photos: At top, HKN President Dr. Virgil Ellerbruch presents Certificate of Recognition to Honorable Mention Winner, Dr. Michael A. Isnardi, and at bottom to Dr. Tom T. Hartley, Honorable Mention Winner.



Photos: At top, Finalists Michael P. Gagliardi, Christopher J. D'Ascenzo, Rathin N. Putatunda and Stanley M. Yuen, hold certificates which commemorate the occasion. At bottom, Dr. Russell C. Drew, 1988 IEEE President, served as Keynote Speaker for the 1988 OYEE Awards Banquet.

In Memoriam



**Norman Richard
"Kit" Carson**

February 15, 1916-May 6, 1989

Norman R. Carson, died at home after a long illness. He patterned his life on John 3:16, the Golden Rule and the Boy Scout Laws.

For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life.

John 3:16

Therefore all things whatsoever ye would that men should do to you, do ye even so to them: for this is the law and the prophets.

Matthew 7:12

He was born in Rockford, Illinois and came to Seattle in 1955. He was the former Partnership Chairman and Executive Partner of R.W. Beck and Associates, an international engineering firm with its general offices in Seattle.

Mr. Carson was a 1937 graduate of the University of Illinois in Electrical Engineering and had been first employed at Chicago by Commonwealth Edison Co. He had served as a Major in the United States Army in India and China during World War II and was decorated with the U.S. Bronze Star Medal and the Chinese Order of the Yun Hui.

Mr. Carson was a member of the Institute of Electrical and Electronic Engineers, American Society of Civil Engineers and the Society of American Military Engineers. He was a member and past director of Eta Kappa Nu and past President of the Consulting Engineers Council of Washington, the Puget Sound Illini Club and Phi Mu Delta, his college social fraternity. He is listed in "Who's Who in Engineering" and "Who's Who in the World."

He endowed two scholarships, the Eta Kappa Nu Outstanding Junior Award and the Ellery B. Paine Scholarship.

He was honored as a Distinguished Alumnus in Electrical Engineering and member of the President's Council of the University of Illinois and as Engineer of the Year by the Consulting Engineers of Washington. In his youth, he reached the rank of Eagle Scout in the Boy Scouts of America. He had been president and director of several corporations.

Mr. Carson was on the board of The Hope Heart Institute. He was a member of the Rainier Club and the Washington Athletic Club.

Mr. Carson's parents were C. Kenneth Carson and Fern Hitchcock Carson, both deceased, of Rockford, Illinois. Survivors are Marjorie LaValle Carson, his wife of 50 years, his daughter Barbara (Mrs. Dale Hamer) of Seattle, his sister Jean (Mrs. W.H. Esterdahl) of Rockford, Illinois and grandsons Kenneth Hamer and Norman Hamer of Seattle.

Family services were held at the Providence Hospital Chapel with interment at Acacia Mausoleum in Seattle. Memorials may be made to The Hope Heart Institute.

In Memoriam

Laurence F. Cleveland

Laurence F. Cleveland of Newton, Massachusetts, professor emeritus of electrical engineering at Northeastern University, passed away on July 16, 1989 at Newton-Wellesley Hospital. He was 84.

Dr. Cleveland was a faculty member at Northeastern for 44 years, retiring in 1973.

He served as acting chairman of the Electrical Engineering Department and was director of the Power Systems Engineering Program.

Professor Cleveland was faculty advisor to the Choral Society and fraternities Tau Beta Pi, Sigma Phi Alpha, and the National Electrical Engineering Honor Society, Eta Kappa Nu.

Dr. Cleveland was the first Faculty Advisor to the Gamma Beta Chapter of Eta Kappa Nu which was established in 1950. He served in that post for many years and guided its beginning and early activities.

He was very helpful during the formative stages of the approach to the Northeastern administration and then to the national office of HKN requesting the establishment of the honor society at Northeastern University. It was natural that he be appointed the first Faculty Advisor upon the final approval to establish the chapter.

Professor Cleveland was eminently successful in carrying out his advisorship as attested to by the naming of the Department's Power Laboratory after him and the establishment of the annual Laurence F. Cleveland Award.

The Boston Chapter Power Engineering Society honored him as the first recipient of the Laurence F. Cleveland award given yearly to a local electric power engineer for contributions to the industry.

Mr. Cleveland was an organist in St. Mark's Methodist Church in Brookline for 21 years and played at the weekly chapel service at Northeastern.

Born in Worcester, he received a bachelor's degree in electrical engineering from Worcester Polytechnic Institute in 1929 and a master's degree in electrical engineering from

M.I.T. in 1935. In 1974 he received an honorary Doctor of Engineering degree from Northeastern.

He was a member of the American Society for Engineering Education, the Power Engineering Society, the Institute of Electrical and Electronic Engineers and the New England Genealogical Society.

Survivors include his wife, Dorothy (Spooner); a daughter, Carol LaCombe of Norwood; a son, George Spooner of Milford; and two grandchildren.

Ferrari Named VP/ Asst. GM of MITRE Air Force Systems Group

Eugene J. Ferrari of West Newton has been promoted to Vice-President and Assistant General Manager of the C³I Group for Air Force Systems at the MITRE Corporation, headquartered in Bedford, Massachusetts. For the past three years he has been Vice-President of that group, responsible for overseeing the conduct of its Air Force technical programs.

MITRE is an independent, not-for-profit system engineering firm engaged in scientific and technical activities for the public benefit under contract to government agencies. Its activities in Bedford are sponsored by the U. S. Air Force and entail the development of command, control, communications, and intelligence (C³I) systems for national security.

Ferrari joined MITRE in 1971 as a member of the technical staff after a 10-year career in industry, working on navigation and communications systems. At MITRE, he has served as a group leader, associate department head, and department head for satellite communications. In 1981 he became Associate Technical Director and in 1985 Technical Director of the Strategic Communications Division. He was promoted to Vice-President in 1986.

Before MITRE, Ferrari held engineering positions with the DOT Transportation Systems Center, Teledyne Adcom, and LFE Corporation. He received bachelor of science and master of science degrees in

electrical engineering, both from Northeastern University. He is a member of IEEE and of the Tau Beta Pi and Eta Kappa Nu honor societies.

New Book: Aspects of Modern Radar

Dr. Eli Brookner of the Raytheon Corp has edited a new book *Aspects of Modern Radar* published by Artech House of Norwood. The book starts with an introductory coverage of radar principles and systems. Covered are the trends to the year 2000 and beyond in radar technology, techniques and systems; digital and analog signal processing; solid state transmitters; adaptive nulling; over-horizon radars; 3-dimensional radars; and phase-phase scanned radars; bistatic radars; the AEGIS system; integrated microwave circuitry called MMIC, i.e., many transistors on a single chip just as is done in the computer industry with digital circuitry; monopulse principles and techniques; ultra low side-lobe antennas; millimeter wave radar technology and systems; radar cross section prediction and reduction, i.e., the stealth aircraft type technology; and doppler weather radars which are used to detect thunderstorms, tornado formation, downbursts, and microbursts which are what caused the disastrous Delta Airlines L-1011 crash at Dallas-Fort Worth Airport in 1985. The book also provides an extremely useful catalog of the parameters of over 200 radars from around the world. The contributors to the book are R. Hill, Lt. J. Sensi, Jr., D. Loughton, Dr. S.M. Sherman, H.E. Schrank, E.F. Knott, Dr. R.J. Doviak and Dr. D.Z. Zrnic as well as Dr. Brookner.

This 574 page, 8½ by 11 inch hard-covered book is an outgrowth of a very successful Boston Institute of Electrical and Electronic Engineers (IEEE) lecture series held in 1986. Dr. Brookner organized a completely new follow-up IEEE radar lecture series which started November 7, 1988, and continued for ten Monday evenings until January 23, 1989.

The previous book Dr. Brookner edited, *Radar Technology* published by Artech House, has sold over 11,000 and is in its 12th printing.

CHAPTER ACTIVITIES

Annual Report Beta Lambda Chapter Virginia Tech

Officers and Data

Fall 1988

President, J. Douglas Gibson; Vice-President, Truls Henriksen; Recording Secretary, Kristin Zaker; Corresponding Secretary, Lisa Walek; Treasurer, Greg Wissinger; SEC Representative, Ralph Albrecht; SEC Representative, Andrew Erler; Historian, Sandeep Shah; Faculty Advisor, Dr. W. J. Baumann; Number of Members, Approximately 40; Number of New Initiates, 32; Number of Business Meetings, 7.

Spring 1989

President, J. Douglas Gibson; Vice-President, Truls Henriksen; Recording Secretary, Kristin Zaker; Corresponding Secretary, Lisa Walek; Treasurer, Greg Wissinger; SEC Representative, Ralph Albrecht; SEC Representative, Andrew Erler; Historian, Sandeep Shah; Faculty Advisor, Dr. W. J. Baumann; Number of Members, Approximately 70; Number of New Initiates, 34; Number of Business Meetings, 7.

Programs and Activities

Student Organizations Showcase:

Continued from 1987; 5 hours; Fall Semester—The showcase provides exposure for campus organizations at the beginning of the school year. Our chapter manned an information booth describing Eta Kappa Nu. The showcase target audience is primarily the incoming freshman. Eta Kappa Nu does not interest this audience. For this reason, this project will most likely be discontinued for next year.

Pizza Party: Continued; 1 hour; Fall Semester—In order to generate interest in the society, the first general business meeting was held at a

local restaurant and was followed by dinner.

Expo '88: Continued; 25 hours; Fall Semester—Expo is an industrial exposition sponsored by the Student Engineers' Council. Eta Kappa Nu manned an information table and sponsored a technical presentation made by Johnson Controls, Inc.

Academic Challenge Bowl: New; 12 hours; Fall Semester—The College of Engineering sponsored an Academic Challenge Bowl in a game-show format between high school teams from across the state. Eta Kappa Nu and Alpha Pi Mu provided student volunteers to act as hosts to the visiting high school students.

Coffee Hours: Continued; 8 hours; Fall Semester—Eta Kappa Nu organized a faculty/student coffee hour one afternoon in the student lounge. This informal event is a good way for students to meet their professors and promotes Eta Kappa Nu in the Electrical Engineering department.

Hardware Project: Continued; 100+ hours; Fall and Spring Semesters—Several Eta Kappa Nu members worked on a project to develop a sound meter for Virginia Tech's basketball coliseum. This project is ongoing at this time.

Class Registration: Continued; 48 hours; Fall and Spring Semesters—Eta Kappa Nu mans the registration table at the Electrical Engineering office during registration week to distribute registration forms and to provide assistance to students.

Tutoring: Continued; 100+ hours; Fall and Spring Semesters—Eta Kappa Nu provides free tutoring upon request to students in Electrical Engineering. Students are referred to a tutoring chairman either directly through advertisement, or through the undergraduate advisor.

New Member Inductions: Continued; 20 hours; Fall and Spring Semesters—Officers of the chapter arranged and conducted the initiation of new members into Eta Kappa Nu. The ceremony includes the

initiation rite, dinner, and an after-dinner speaker.

Technical Elective Forum: Continued; 10 hours; Spring Semester—Eta Kappa Nu arranges for professors from each specialization in Electrical Engineering to make a short presentation to the Electrical Engineering juniors describing the senior courses available to their discipline. This helps juniors to make decisions concerning their schedule for the senior year.

Open House: Continued; 20 hours; Spring Semester—This event was organized on a college-wide level by Tau Beta Pi. Beta Lambda chapter joined with the ISHM and IEEE chapters at Virginia Tech to organize and conduct the open house of the Electrical Engineering department.

Guest Speakers: Continued; 10 hours; Spring Semester—Eta Kappa Nu and IEEE co-sponsored a presentation by two employees from IBM Corporation in Poughkeepsie, New York. Refreshments were served and after the presentation, the computing center provided several tours of their facilities so that the IBM employees could show students the machines that they had discussed in the presentation.

Student Survey: Continued; 20 hours; Fall Semester—Last year's senior survey was extended to cover Electrical Engineering students at all academic levels. The survey was revised and distributed to all students at registration during the Fall semester. Several hundred surveys were returned, and the results were distributed to the department. This project provides a good communication path between the students and the Electrical Engineering administration.

Happy Hours: Continued; 20 hours; Fall and Spring Semesters—Eta Kappa Nu sponsored, and sometimes co-sponsored with IEEE, happy hours at members' apartments. These events were open to all Electrical Engineering students, faculty, and staff.

SEC Superstars: Continued; 30 hours; Spring Semester—The Student Engineers' Council sponsors a day-long event in which engineering societies compete in softball, volleyball, and tug-of-war. Eta Kappa Nu fielded a team and was moderately successful. All involved had a good time.

Teaching Awards: Continued; 10 hours; Spring Semester—Eta Kappa Nu presents two awards to professors each year—the White Hat Award, for everyone's favorite professor, and the Outstanding Teacher Award. Both awards include a plaque and dinner at a fine local restaurant. The awards are made at the annual Electrical Engineering picnic.

EE Spring Picnic: Continued; 40+ hours; Spring Semester—Eta Kappa Nu, IEEE, and ISHM co-sponsor the annual EE picnic. This year's picnic was held at one professor's farm. Food and entertainment were organized by all three societies.

Annual Report Gamma Delta Chapter

Worcester Polytechnic Institute

President, Donald C. Gale Jr.; Vice-President, Kenneth Desco-teaux; Secretary, Alison Gotkin; Treasurer, Kathy Hepp.

Gamma Delta Chapter enjoyed a very successful 1988-89 academic year at Worcester Polytechnic Institute (WPI). This year, we initiated 12 seniors, 22 juniors, three graduate students and one professor. Throughout the year, we were able to create an enjoyable atmosphere of service and social activities. What follows in this report is a brief description of each activity at Gamma Delta chapter this year.

Fall & Spring Barbecues: Each year, Gamma Delta sponsors two barbecues for the faculty, staff, and students of the EE Department at WPI. The weather was fantastic for both barbecues, in the fall and the spring. In all, close to 100 people partook of hamburgers and hot-dogs. These two events definitely provided a welcome break from the regular noon-time routine. All pres-

ent, including those members working at the BBQ, had a great time.

One-on-One Tutoring: Begun last year, our one-on-one tutoring service provided the freshman and sophomore EE's at WPI a chance to talk to an HKN member about regular course work, future courses and projects, or anything else of question to them. This project enjoyed enormous response and success. This project is here to stay!

Undergraduate Projects Subcommittee: The Gamma Delta Chapter had a Sub-Committee of the faculty's Undergraduate Projects Committee. The Committee's main responsibility is in refining the MQP, or Senior Project. Our Sub-Committee had one representative on the faculty committee. Our main focus this year was to gather information from Juniors and Seniors within the Department about their feelings toward the MQP process, especially with regards to possible improvements. We received approximately 60 detailed responses. The information was organized and presented to the committee for their own benefit.

Fall Initiation: Our Fall Initiation this year took place on November 18, 1989 at the Higgins House at WPI. Seven Seniors, 15 Juniors, three graduate students, and one professor were initiated. Dinner followed at the Windsir Restaurant in Worcester. Our Department Head, Professor Orr, made a few remarks about the importance of graduate school. Professor Zeugner, Humanities Department, gave a talk on his experiences in Japan. There were over 80 members and guests in attendance.

Social Hour: In order to provide a relaxed atmosphere for students and faculty to interact, social hours were planned in the fall, winter, and spring. Beverages and snacks were served. This time gave members a chance to wind down from an otherwise hectic schedule.

EE Student Newspaper: Due to strong lobbying by some Gamma Delta members, an EE student newspaper, SIGNALS, was started this year. Any undergraduate or graduate student was welcome to be on the staff. Run by the students, articles were of varied interest on all aspects of electrical engineering at WPI. In all, five issues were pub-

lished and were a great success. News about Gamma Delta Chapter and its members appeared in each issue.

Newspeak Correspondent: One HKN member kept Gamma Delta Chapter well publicized throughout the campus via Newspeak, the campus newspaper. Club corners appeared weekly. In addition, advertisements were taken out for special events.

Software Distribution: Two members of Gamma Delta Chapter were responsible for copying software for a controls engineering course and then selling it to students in the class at a nominal cost to cover expenses. Students found this service to be extremely convenient.

Peer Advising Day: In February, it was time to select courses and projects at WPI. On WPI's Project Planning Day, Gamma Delta Chapter provided a peer advising group to all those students who sought it. In all, sixty underclassmen attended and received the type of advice they wanted—from someone who recently went through the course experience. We provided juice and cookies for refreshments.

Freshman Advising Night: Also in February, all the honor societies from the different majors provided a forum for questions from freshmen about their future. Many wanted to know what the next three years really had in store for them. This provided Gamma Delta Chapter with another opportunity to become recognized by Freshmen. Both the Freshmen and the HKN members attending thought the night was great and should become a continuing event.

Ski Trip: As a social activity, Gamma Delta Chapter subsidized members to go to a Ski Night at Mt. Wachusett. The weather was great for skiing. All members who attended had a great time.

Raffle: In order to provide a fundraiser for the chapter, an HKN raffle was undertaken. First prize was a VCR, second was a portable Walkman, and third was free movie passes. All members participated in selling tickets. A profit of \$150 was realized. Pizzas were given away for the top three sellers.

HKN Coffee Mugs: Coffee mugs with the HKN coat of arms were ordered for student and faculty members. In all, 45 mugs were ordered and sold (at cost).

Awards Committee: The Gamma Delta Chapter's Awards Committee provided a fair and just process for determining the Outstanding Junior and Senior EE's. This year, Scott Dresser represents us as Outstanding Sr. EE and Michael Kroese represents us as Outstanding Jr. EE. Plaques were awarded to them. In addition, a new local award was established to honor a professor for his great teaching abilities. Juniors and Seniors submitted nominees. This year's choice was Professor Russell Krackhardt.

Spring Initiation: Our Spring Initiation took place on April 22, 1989. Five Seniors and seven Juniors were initiated. Dinner followed in the Great Hall of the Higgins House. Forty members and guests were in attendance. A program was also designed to be given out to the guests at the initiation. All present enjoyed themselves.

Room Search Committee: In order to procure better working quarters, a joint committee of HKN, IEEE, and Signals officers was formed. The purpose was to provide detailed, written explanations why office space was needed by these groups and what new programs could be established if office space was available.

Fellowship Donation: Unfortunately, a dear member of WPI's EE Dept., Professor Harit Majmudar, passed away in April. In his name, Gamma Delta Chapter donated \$100 to the Harit Majmudar Fellowship.

Boston Red Sox Trip: As a social event, Gamma Delta Chapter members and their guests planned to attend a Boston Red Sox game on a Sunday afternoon. Unfortunately, on the chosen day, the Red Sox were rained out. Some students did, however, make the most out of the trip and enjoyed some time in Boston.

Golf Tournament: As a final social event, Gamma Delta Chapter planned a golf tournament for student and faculty members and their guests. Many different skill levels were represented and all who at-

tended had a good time. It was a nice way to say good-bye to the graduating Seniors.

Election of New Officers: On April 25th, 1989, new officers for 1989-90 were elected. They are as follows: President, Michael Kroese; Vice-President, Michael Plourde; Secretary, Michael Siedzik; Treasurer, Keith Pflieger. Following the election, the old and new officers went out to dinner and discussed future plans for Gamma Delta Chapter. Much optimism for the future was present.

In closing, the Gamma Delta Chapter had a very successful and enjoyable academic year in 1988-89 and is looking forward to an even better year in 1989-90.

Chapter Summary Beta Eta Chapter

North Carolina State

Overview

This summary describes the activities of our chapter for the 1988-1989 school year. The majority of our activities center around our pledges for each semester. During the fall semester of 1988, twenty-six (26) pledges were inducted, and twenty-two (22) were inducted in the spring of 1989. A brief summary of their activities follows.

Pledge Activities

Each pledge was responsible for at least four hours of time for his contribution to the chapter's activities. A member was chosen to chair each committee, corresponding to the particular pledge activity. The remaining members assisted the particular chair member in the committee's duties.

The **Computer Disk** project, a new project for Beta Eta, was organized for the fall semester. Its main purpose was to prepare computer disks, which were bought in bulk, for sale to students. The target sale group was the CSC 101 class, an introductory computer class taken by most engineers. Because the disks were bought in bulk, they could be offered to students at a low price, in comparison to the local student book stores.

The pledges spent their time formatting several disks, and then checking them for any errors. They were then sold during the first week of the spring semester by members. (Incidentally, this was quite a success, and future plans include downloading public domain engineering and math programs and programs written by members.)

The **Newsletter** project, also a new project for Beta Eta, commenced in the spring semester. The goal of this project was to start a newsletter which would be distributed to electrical engineering students and faculty. Topics such as faculty research and general student concerns (E.I.T., graduation deadlines, etc.) were addressed. All pledges were responsible for submitting material to the committee such as interviews conducted with faculty members. The particular pledges on this project were then responsible for setting up the newsletter format, entering all the articles into the computer publishing program, and arranging the general newsletter layout. It is hoped in the future that this letter will be distributed to area technical businesses in the Research Triangle Park, an idea strongly supported by our department head.

The **Tutorial** project is an ongoing project of our chapter. Although our audience has changed to different classes, we have done tutorial sessions for at least one class per semester for many years. This year we gave review sessions for the ECE 331 and 332 classes, the two classes for nonelectrical engineering majors. In these weekly tutorials, one member works various problems which pertain to the week's subject matter. The pledges' responsibilities were then to assist the students on a one-on-one basis during the session. This enabled the students to receive helpful group instruction, while also getting the benefits of individual instruction.

The **Test File** project is also a continuing project for Beta Eta. Each semester, the pledges on this project obtain old tests for various ECE courses from the test files in our library which are maintained by the course's respective faculty members. This has enabled our chapter to have a current file on the major courses

to help students in obtaining a perspective of the teacher's test styles. This opportunity is open to all electrical engineering students.

The **Publicity** project was responsible for posting all notices pertaining to meetings and special events, such as guest speakers for open meetings. Each pledge on this project was assigned to a particular floor in the electrical engineering building to post the necessary signs, and then remove the signs following the meetings.

The **Bridges** project enabled both the large bridge outside of our building and the brass letters in a cement plaque, where all major societies are represented, to be kept in proper condition. The pledge(s) electing this project maintained both symbols for the duration of the semester.

Additional Activities

Our activities during the year also included two informal speaker meetings and two banquets, also featuring guest speakers. Topics ranged from "Video Conferencing and Its Management" to "Ethics." Although the banquets were primarily for the members and their guests, the informal speaker meetings were open to all students.

In a final support to our department, our chapter supplied ushers to handle our department's graduation ceremonies in May.

Final Notes

As of this school year, four new officers were elected for the positions being vacated. Additionally, the office of secretary was divided

into the traditional two offices, Corresponding and Recording Secretaries. These five members will serve Beta Eta for the 1989-1990 school year.

Respectfully submitted,
Secretary, HKN—Beta Eta

Annual Report Beta Kappa Chapter Kansas State University

The 1988-1989 academic year was a successful year for the Beta Kappa Chapter. A listing of officers follows: President, Margaret Green; Vice-President, Brett McCammon; Treasurer, James Lebak; Recording Secretary, Scott Burgett; Corresponding Secretary, Don Gruenbacher; Bridge Secretary, Chris Felts; Faculty Advisor, Dr. Richard Gallagher.

Officers met every Tuesday at 4:00 p.m. during the Fall semester to discuss chapter business. Activities that were conducted in the Fall included senior EECE student composite pictures, Royal Purple (yearbook) pictures, a demonstration interview in which a senior was actually interviewed in a large lecture hall by an AT&T recruiter, and tutoring for circuit theory examinations. These activities involved large numbers of electrical engineering students and Eta Kappa Nu actives. The Open House EECE Curricula Display, an Eta Kappa Nu responsibility, was also frequently discussed.

During the Spring semester, officers met every Tuesday at 11:00 a.m.

to discuss chapter activities. During the Spring, letters were sent to potential members inviting them to an informational meeting held in the Student Union. At the meeting, students were informed about Eta Kappa Nu and the process involved in becoming a member. A great deal of time and energy went into planning and constructing the Open House EECE Curricula Display. Eventually, a design that consisted of prisms and brightly colored yarn was constructed, illustrating both the electrical and computer engineering B.S. degrees. Two three-minute videos were incorporated into the display. The display received second place in the College of Engineering. Voting was also conducted for the 1989 Eta Kappa Nu Distinguished Faculty Award. Only EECE students may vote for the EECE faculty member they feel is most outstanding. This year's recipient was Dr. Medhat M. Morcos. Dr. Morcos received his award at the Initiation Banquet. Forty-one outstanding students were initiated at the banquet. Finally, new officers were elected April 25.

The Beta Kappa Chapter's officers for 1989-1990 are as follows: President, Scott Rhoades; Vice-President, Wai Hong Chong; Treasurer, James Lebak; Recording Secretary, Gregory E. Long; Corresponding Secretary, Loren N. Martin; Bridge Secretary, Michael K. Headings.

This report is respectfully submitted to the National Office of Eta Kappa Nu on 2 May, 1989, by Scott Burgett, Recording Secretary, Beta Kappa Chapter.