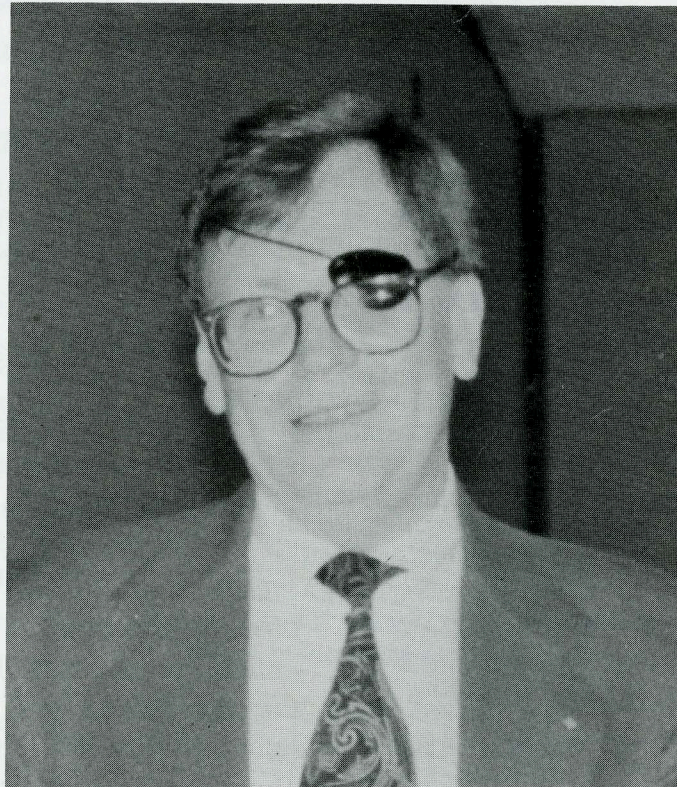
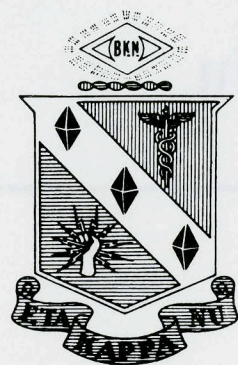


BRIDGE of Eta Kappa Nu



JERRY M. WOODALL
1997 Recipient
Vladimir Karapetoff
Eminent Members' Award



Editor and Business Manager
J. Robert Betten

August 1997
Vol 93 - No. 4

Contributing Editors

Nancy Hantman
Laureen K. H. Parker
Ralph J. Preiss
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John A. Tucker



The BRIDGE is published by Eta Kappa Nu Association, an electrical engineering honor society. Eta Kappa Nu was founded at the University of Illinois, Urbana, October 28, 1904, that those in the profession of electrical engineering, who, by their attainments in college or in practice, have manifested a deep interest and marked ability in their chosen life work, may be brought into closer union so as to foster a spirit of liberal culture in the engineering colleges and to mark in an outstanding manner those who, as students in electrical engineering, have conferred honor on their Alma Maters by distinguished scholarship activities, leadership and exemplary character and to help these students progress by association with alumni who have attained prominence.

The BRIDGE is published four times annually—November, February, May, August and is published by Eta Kappa Nu, Haywood Printing Company, 5th & Ferry Sts., Lafayette, Indiana. Second class postage paid at Lafayette, Indiana. Eta Kappa Nu Association, Subscription price: three years, \$15, Life Subscription, \$60.

Address editorial and subscription correspondence and changes of address to:

HKN BRIDGE, P.O. Box 2107
Rolla, MO 65402

Postmaster: Send address changes to: HKN Bridge, P.O. Box 2107, Rolla, MO 65402.

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Book Review by Berthold Sheffield

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"The Fire Within" *

The Story of Inductotherm Industries, Inc. and the Man who built it.

by Henry M. Rowan, with John Calhoun Smith

"What would you do with a \$100 million dollars?", Glassboro (NJ) State College was asked by the industrial giant Henry Rowan before he made his unsolicited, fairy tale-like donation. In his book "The Fire Within", he reveals the circumstances of his gift, and how he and his wife progressed from almost zero assets to a great fortune.

"The Fire Within" is the life story of an inspired engineer and perfectionist. Dissatisfied with undemanding jobs and with the complacent performance of his first employers, he started out on his own.

It is the success story of Henry M. Rowan, founder and chairman of Inductotherm Industries, Inc., the world's largest designer and manufacturer of equipment for melting metal, heat treating and welding.

He and his wife built Inductotherm's first furnace around 1950 in their backyard. They provided unmatched performance and a degree of prompt and reliable service which quickly surpassed the competition. This grew into his present global conglomerate of over 80 companies, with nearly 5000 employees.

The book describes with inspiring clarity Rowan's progress from near failure as teenage egg farmer—with his mother as his best cus-

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tomers—to successful industrialist, and on the way, graduation from MIT, which included nomination to Eta Kappa Nu, and service as WW II pilot.

Rowan does not hesitate to reveal negative remarks which have been circulated about himself. He reports that "I've heard people say that I'm hard to satisfy, but that's not quite right; the fact is that I'm impossible to satisfy....I've never been satisfied. I've never been content with the status quo. I have never said to myself, 'This is the best that we can do.' "

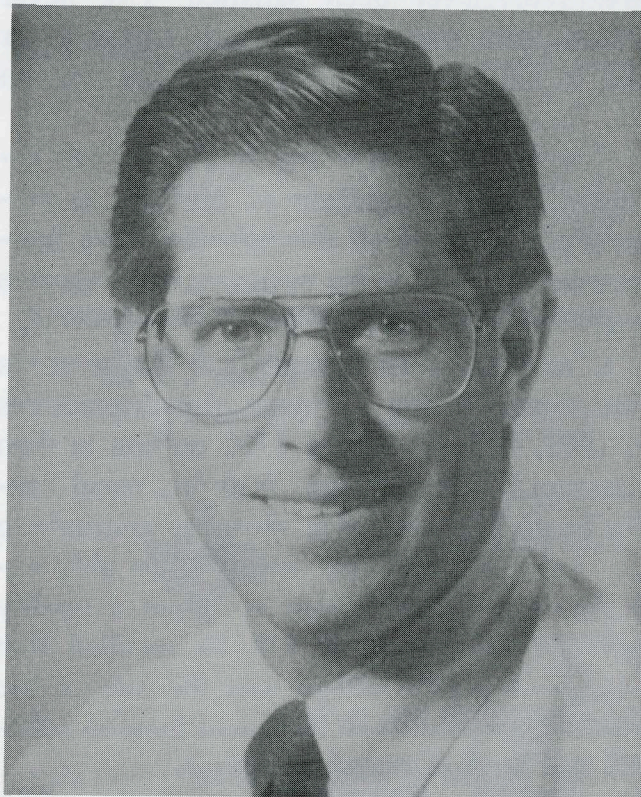
Rowan's customers and employees are accorded equal thoughtfulness. His aim to perfection permeated all his activities. His hair-raising interludes in his business, and tragedies in private life, are described in riveting detail.

In addition to the international stature of his firm Inductotherm, he made global headlines in 1992, with his gift of \$100 million to then Glassboro State College. With his usual candor he said he wanted to show his gratitude to the State of New Jersey, and to allow able students of moderate means to attain a quality technical education. It will be recalled that Glassboro State College was the site of the 1962 Summit between President Lyndon Johnson and Russian Premier Kosygin.

Rowan's gift made Glassboro the third richest college in New Jersey, just behind Princeton and Rutgers. In his honor, the college was renamed "Rowan College of New Jersey". In the book Rowan recalls "The reporters could not find a secret motive for the gift, so they invented one...". They were wrong, of course. They did not know Rowan. The book shows convincingly that there was no secret motive.

This 400-page thriller consumed the reviewer in two intense sessions both lasting way beyond normal bedtime. It is lucidly written, and comprehensible, even by the nontechnical reader. Some information about Inductotherm may be found on the Internet at: <http://www.search.com>

NEW OFFICERS AND DIRECTORS



John D. Wolf
President

John Wolf is executive vice president and program manager of Teledesic Corporation, which is building a global, broadband "Internet-in-the-sky." Using a constellation of several hundred low-Earth-orbit satellites, Teledesic is the first proposed satellite communications network that will enable affordable, worldwide access to "fiber-like" telecommunications services such as broadband Internet access, video-conferencing, and interactive multimedia.

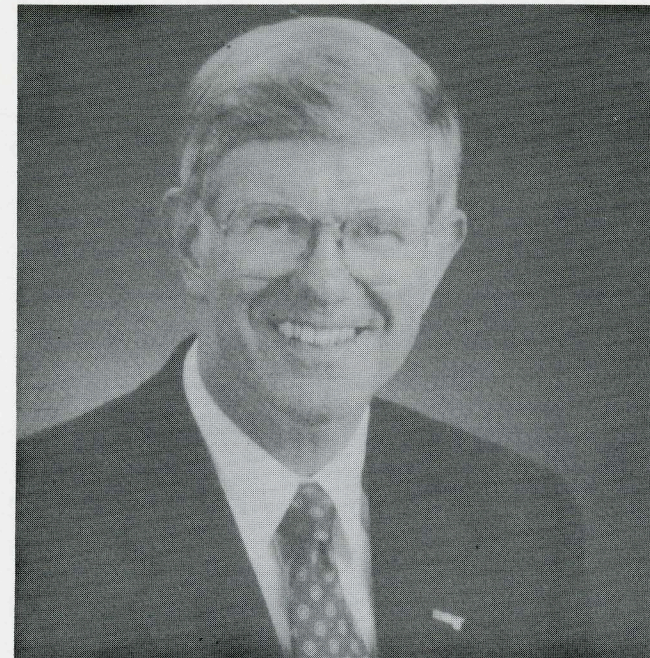
John, a former longtime McDonnell Douglas leader, is the former vice president and general manager, for the MD-95 Program at McDonnell Douglas. He was responsible for the development and certification of the regional twin-jet which is scheduled to make its first flight in 1998. He held numerous key management positions during his 33-year career at McDonnell Douglas.

Before the MD-95, John was Douglas Aircraft Company's executive vice president responsible for marketing, advanced programs and product support. He was vice president and general manager of twin-jet programs in 1989, and turned the MD-80 program into a profitable operation. In 1991, John was named executive vice president of commercial aircraft, responsible for the MD-80, MD-90, MD-11 and MD-12 programs.

From 1986 to 1989, John was executive vice president of McDonnell Aircraft Company, responsible for engineering, manufacturing, quality, tooling, planning and human resources. He also established multidisciplinary product teams to improve quality and processes, lower costs and shorten span time.

John holds a bachelor's, master's and professional degree in electrical engineering from the University of Missouri at Rolla.

A native of Oklahoma, John is married and has two children.



Richard J. Gowen
Vice President

Dr. Richard Gowen was inducted as a member of Eta Kappa Nu by the Gamma Epsilon Chapter at Rutgers University in 1956. His career as an electrical engineer includes experiences in industry, government and education. He is President of the South Dakota School of Mines and Technology in Rapid City, South Dakota.

Previously elected to a normal two-year term (1994-96) on the HKN Board of Directors, he has now been elected to serve as HKN Vice President for 1997-98.

Dr. Gowen began his professional career at the RCA Laboratories in Princeton, N. J. as a research engineer in a group working to develop mural television. He was called to duty in the Air Force as an electrical engineer and participated in the development of systems and educational programs for the next 20 years. Through the sponsorship of the Air Force, he entered graduate studies in electrical engineering at Iowa State University in

1959. He joined the pioneering Biomedical Engineering graduate program as a student of Dr. Victor Bolie. He completed his masters degree in 1961 and the Ph.D. degree in 1962.

With the completion of his graduate studies, Dr. Gowen became a member of the faculty of the Department of Electrical Engineering at the Air Force Academy. He participated in the development of courses and degree and research programs; and he provided guidance and consultation for the development of various military systems. He retired as a tenured professor in 1977.

While at the Academy, he directed the joint NASA - Air Force Space Medical Instrumentations Laboratory that developed experiments to assess the effects of weightlessness on the cardiovascular system during space flight.

Dr. Gowen served as a member of the NASA Astronaut Medical Launch and Recovery team for Apollo and Skylab missions. He also served as a consultant to various government agencies for the development of computer telecommunications and management systems.

Dr. Gowen joined the South Dakota School of Mines and Technology as the Vice President for Academic Affairs and the Dean of Engineering in 1977. He guided the integration of computer technologies into programs in engineering and the sciences.

In 1984 he was appointed President of Dakota State University to lead the reorientation of degree programs in business, the humanities, teacher education, and the sciences to prepare graduates for positions of leadership in computer information system careers.

In 1987 he became the 15th President of the South Dakota School of Mines and Technology. This technological university offers a broad range of engineering and science degrees through the doctoral level. The academic programs are organized into the four colleges of Earth Systems, Systems Engineering, Materials Science and Engineering, and Interdisciplinary Studies. The interdisciplinary colleges encourage students to prepare a foundation of understanding in their chosen engineering or science discipline while also developing an ability to use such knowledge to resolve the critical concerns of industry and society.

Dr. Gowen has led the development of programs to expand the growth of companies in rural America. He guided the formation of the South Dakota Technical Assistance Program to develop partnerships involving companies, universities and government.

He has served as the Science and Technology Representative for the State of South Dakota. Under his leadership, the university has given priority to developing special software to combine the access of the Internet with the power of advanced databases. This software connects people with needs to others who can provide the needed products and services. Called the High Priority Connection, this network provides the infrastructure to build electronic communities in business, education, technology, research and community services.

Dr. Gowen is a leader in the engineering profession. In 1984, he served as the Centennial President of The Institute of Electrical and Electronics

Engineers, the world's largest technical society.

He also served as Chairman of the Board of the American Association of Engineering Societies in 1988.

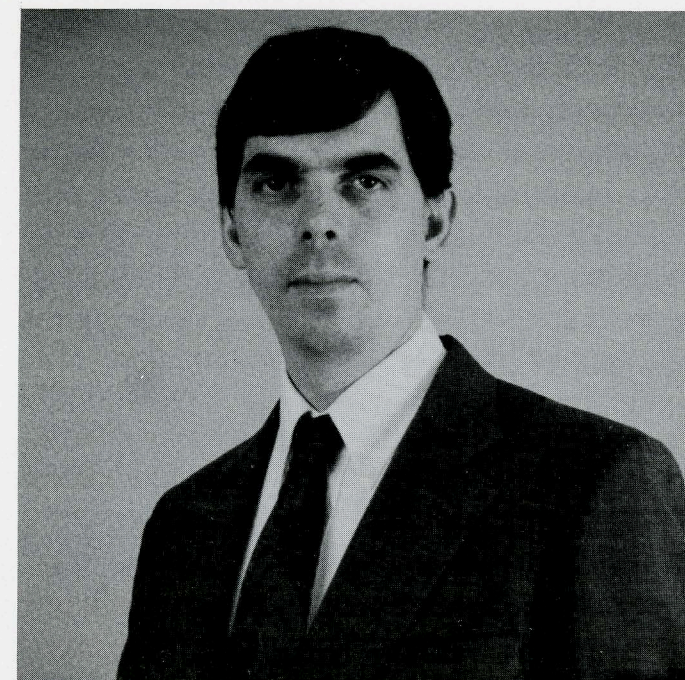
An advocate of the improvement of the preparation of all students in the mathematics and sciences essential for success in today's technological oriented industries, Dr. Gowen has participated in the formation and operation of organizations and programs to enhance the education of students.

He serves as the President of the Triangle Coalition for Science and Technology Education. At the request of the Nuclear Regulatory Agency, he co-chaired an extensive study to develop probabilistic risk assessment procedures for the evaluation and licensing of nuclear power generating stations.

He is a Fellow of the Institute of Electrical and Electronics Engineers and has received many honor for his services to the engineering profession.

He remains an active participant in engineering and science professional organizations. Dr. Gowen has served on boards of various companies including Recyclights and the Economic Development Partnership. He was a founding director of the ETA Supercomputer Company. He also participates in the development of community service organizations.

Dr. and Mrs. Gowen (the former Nancy A. Applegate) have five children: Jeffrey B., Cindy A. Schlimgen, Elizabeth M. Kluksdahl, Susan L., and Kerry B. Larson. Cindy, Elizabeth and Kerry are engineers.



Ronald Spanke
Director

Ron Spanke joins the HKN Board of Directors as the 97-98 East-Central Regional Director. Ron has 20 years engineering experience in the field of optical switching, optical device technology, asynchronous transfer mode technology, high speed telecommunication switching fabrics and architecture and design of large digital switching systems.

Born in Tulsa, OK on June 27, 1958, he received the BS degree in Mechanical Engineering in 1980, and the MS degree in Electrical Engineering in 1982, both from Oklahoma State University in Stillwater, Oklahoma.

He received the Ph.D. degree in EE/CS from Northwestern University in Evanston, Illinois in 1994, concentrating on optics and photonic switching technologies. This broad multidisciplinary educational background has been advantageous in many aspects of his professional career.

Dr. Spanke's research activities have made numerous architectural and theoretical contributions to the field of photonic switching, where photons are switched from path to path

without converting them to/from electronics. He developed innovative Lithium Niobate (LiNbO₃) optical switching technology for use in photonic switching systems. His work centered on space and time division optical switching architectures and on LiNbO₃ device designs. Dr. Spanke holds 3 relevant patents in photonic switching architecture and technology and has over 15 publications in the optical switching field. Several of his articles have been reprinted in books and have become key texts for students and researchers studying optical switching.

Currently, Ron is a Distinguished Member of the Technical Staff at Lucent Technologies - Bell Laboratories, which provides telecommunications switching and transmission equipment to most of the world's long distance and local service telephony providers.

At Bell Labs, he is responsible for the research and architecture of new telecommunications products and techniques.

Dr. Spanke has been the chief architect of several large developments within the core of Lucent Technologies' largest switching system, the SESS(TM) digital switch, including large high speed switching fabrics, packet switching fabrics, fiber optic interconnection between switching modules and high capacity call processing engines.

Previously, Dr. Spanke was with AT&T Bell Labs, until Lucent Technologies was spun off as a separate company in 1996. At AT&T, Ron pioneered work on the Batcher/Banyan switch architectures that have since been studied and prototyped by numerous telecommunication companies and universities worldwide.

Ron holds several key Batcher/Banyan and Broadband ISDN architecture patents. He has architected several large VLSI devices for switching fabrics and line interface devices for use with the Batcher/Banyan switches.

Ron also pioneered work on very large shared memory ATM switch fabrics, providing

fundamental concepts to construct these large fabrics with very low blocking probabilities and high reliability. Several papers on gigabit/terabit switching and fourteen key patents in ATM summarize many of his contributions this field.

Also, while at AT&T, Ron contributed heavily to the Code Division Multiple Access (CDMA) technology for wireless telecommunications. He holds several key patents in CDMA architecture, allowing for large soft-handoff regions across several telephone offices based on ATM transport of CDMA packets. He provided systems architecture and design to develop high ATM interfaces directly to the packet switching fabrics within the central office switch to enable the transport of large quantities of CDMA voice packets.

In addition to Bell Labs at Lucent Technologies and AT&T, Ron has also held short-term positions at Texas Instruments, Texaco Oil Company, Sun Oil Company, and the Army Corps of Engineers. Ron, also, currently serves on the board of directors and is the CFO for a small local utility company.

Overall, Dr. Spanke has published over 20 technical publications, has spoken at conferences across the U.S. and abroad and holds 24 U.S. Patents and over 75 foreign patents.

Dr. Spanke is an active member of several professional and honor societies, including ASME, IEEE, and the IEEE Lasers and Electro-Optics Society. While at OSU, he joined Tau Beta Pi, HKN, Pi Tau Sigma, Phi Kappa Phi, and Omicron Kappa Delta. At OSU, Dr. Spanke was the first recipient of the OSU Graduate College Phoenix award in 1982, to honor the top OSU graduate student over all disciplines. Over the past 15 years, Ron has devoted much of his spare time to promoting

engineering awareness in primary and secondary minority schools and universities. He has made numerous visits to 7th and 8th grade assemblies in Chicago area minority schools with hands-on demonstrations of lasers, robots, telephony gear, speech processing equipment, etc., as well as pep talks on what it means to stay in school; what it's like to be an engineer; and what and how to study.

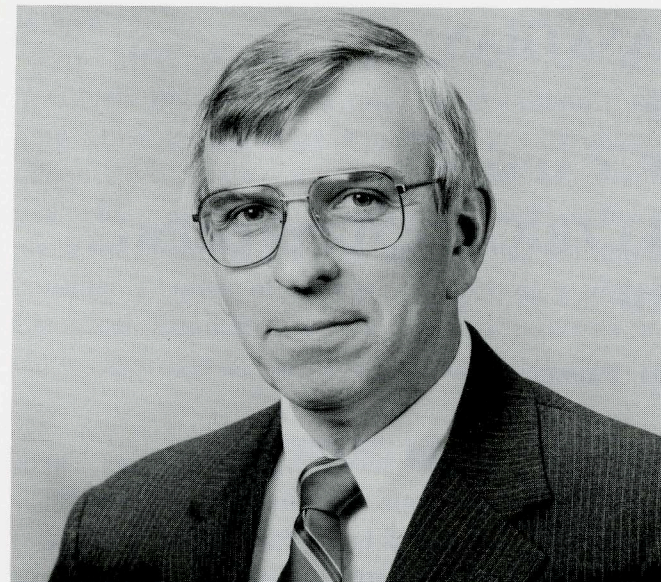
At the 11th and 12th grade level, he has also made numerous high school visits targeting minority and female students to increase their awareness and excite them about the various engineering fields. He has also visited many universities as a visiting industry lecturer to present in-depth high technology lectures on specific research topics.

Dr. Spanke worked on a small task force with engineers from local corporations to create a full credit high school summer course entitled "The Engineering Experience." This course lasted the full summer term, concentrating one week on each of the various engineering disciplines.

Each week included some basic theory, a lab experiment, a field visit or visiting engineer, and, of course, homework. The Engineering Experience course material has been disseminated through the National Center for Research in Vocational Education, and has been presented at many state and national education conferences.

Ron has been very active in Eta Kappa Nu, beginning as a student member at OSU. In 1988, Ron was awarded the HKN Outstanding Young Electrical Engineer award for his contributions. Ron's election to the HKN Board as East-Central Director is a continuation of his many years of service to HKN.

Ron, his wife Jutta, and their 17-year old son, Chris, live in Wheaton, Illinois.



James L. Melsa
Director

In 1960, James L. Melsa earned a B.S. degree in electrical engineering from Iowa State University. In 1995, he returned as Dean of the College of Engineering.

In the intervening years Melsa earned advanced degrees in electrical engineering at the University of Arizona - the M.S. in 1962, the Ph.D. in 1965 - then joined the faculty as Assistant Professor. Two years later he went to Southern Methodist University where he was named Professor in 1970. While there he co-authored five textbooks, including Linear Control Systems, a classic text used around the world. In 1973 he became Professor and Chair of Electrical Engineering at the University of Notre Dame.

A dynamic teacher, he was recognized by ASEE as one of the outstanding electrical engineering professors in the United States. His research on speech encoding and digital signal processing was funded by the National Science Foundation, NASA, the Air Force, the Defense Communications Agency, and others. He directed 20 masters theses and 16 Ph.D. dissertations and made fundamental contributions to the control, estimation, speech processing, and digital communications fields.

In 1984, he began a second career in industry as Vice President at Tellabs in Lisle, Illinois. He built

Tellabs' first research organization and conducted research that developed proprietary low-bit-rate speech encoding and adaptive echo canceler algorithms. Several successful products implement his innovations.

Adding responsibility for new product development for the corporation, he saw the research and development staff grow from 200 to 300 employees and the budget increase from \$12 million to \$23 million.

In 1989, as Vice President of Strategic Planning and Advanced Technology, Melsa led Tellabs' first strategic planning process, evaluated acquisition and merger opportunities, and mastered the art of competitive positioning in global industries while continuing to manage the Research Center as well as the generation and dissemination of advanced design methodologies.

Then as Vice President and General Manager of the Data Communications Division, he led the division to more than 25% growth in revenues and even more in profits.

In 1993 he assumed a newly created position as Vice President of Strategic Quality and Process Management. Through his leadership in this position, Tellabs has begun to shape a quality program based on customer input and empowered teamwork. In recognition of his contribution to a philosophy of quality, the director of the National Institute of Standards and Technology appointed Melsa to the 1995 Board of Examiners of the Malcolm Baldrige National Quality Award. He was reappointed in 1996 and 1997. As an Examiner, he is responsible for reviewing and evaluating applications submitted for the award.

Melsa is a member of numerous honor societies, and he serves on many boards and advisory councils for academic and professional programs. He directed the Strategic Quality Management and Customer Service Institute for the 1994 National Communications Forum and has held offices in professional organizations, including president of the IEEE Control Systems Society. He is the author of 11 books, 111 papers and a sought-after speaker on quality, productivity, global competitiveness, electronic networks, and signal processing. He is a Fellow of the IEEE.

ASHWIN VISWANATHAN

WINS

1997 NORMAN R. CARSON

OUTSTANDING JUNIOR IN ELECTRICAL ENGINEERING

AWARD

by Laureen K. H. Parker

ANNUAL PROGRAM

Each year, Eta Kappa Nu honors a junior in electrical engineering for his or her leadership abilities, scholastic and technical achievements, and service contributions. This award, the Norman R. Carson Outstanding Electrical Engineering Junior Award, was established by Mr. and Mrs. Carson to recognize the student's ability to lead, persuade, and influence the actions of others, as well as to recognize his or her diligence, intelligence, and technical competence. The winner of this award receives \$500 and a framed certificate.

The HKN Lone Star Alumni Chapter of Austin, Texas, which administers this award, received many outstanding applications. After careful consideration, one winner, two runners-up, and five honorable mentions were selected.

WINNER

Ashwin Viswanathan, Beta Theta Chapter, has served in many organizations while a student at the Massachusetts Institute of Technology. He has served as the chairperson for the Undergraduate Association for MIT's Student Governing Body, chairperson for the Undergraduate Association Executive Committee, and treasurer for the Baker House Dormitory. He has also served as the section leader and principal clarinet of the MIT Symphony and performed with the MIT Chamber Music Society. In addition, he was one of two undergraduates to serve on the committee to select a new Dean for Student Activities. He was one of four students elected to serve on the MIT Finance Board and he served on the Campus Activities Complex Advisory Board which was responsible for providing input into renovations and modifica-

tion to MIT student services. For the Beta Theta Chapter of Eta Kappa Nu, Ashwin wrote EE/CS course evaluations and has tutored EE/CS courses. As a member of Tau Beta Pi, he was the organizer of a carnival for needy children in the Cambridge area.

Ashwin has shown dedication to his community by serving many hours with several organizations. He has done basic and finish carpentry for Just-A-Start Corporation which renovates and builds homes for the homeless. He has been a mentor and tutor for Youth Build which serves disadvantaged adolescents in Cambridge youth shelters through academic tutoring and team-building activities. He has served over 100 hours with the Massachusetts Attorney General's Office mediating disputes between consumers and businesses. Furthermore, he has spent many hours with cancer patients at the Massachusetts General Hospital who have no family in the area. He has also been an active participant with Circle K in community cleanup efforts of Massachusetts parks and organized campus wide food drives for local shelters. Ashwin's hobbies include carpentry and sailing.

Several honors and awards presented to Ashwin include Outstanding Mediator for the Commonwealth of Massachusetts and MIT Music Scholar. He has been a Presidential Scholar Finalist and National Science Scholar.

Ashwin's work experience includes consulting at Simulate Inc. where he was responsible for developing and maintaining incentive compensation plans for pharmaceutical companies. He has also worked at the MIT Media Lab to develop a multimedia tool kit for the original release of Java and authored a series of manuals in programming

in Java.

At MIT, Ashwin has been studying non-invasively obtained heart rate, blood pressure, and lung volume signals as a means for providing a quantitative means for analyzing heart abnormalities. His concern for making the world a better place for all and social responsibility has led him to consider a career in medical research as a PhD in Electrical Engineering. His medical interests include electrocardiology and electrophysiology.

RUNNERS-UP

Jeffrey D. Barton is a member of the Beta Lambda Chapter of Eta Kappa Nu at Virginia Tech where he has served as Vice President and Bridge Correspondent. He has also served as Chair for the Service Committee and Chair of the Publicity Committee. For the IEEE chapter, he has been the Chair of the Technical Committee, Chair of the Student Paper Competition for the Southeast Conference, and a member of the Hardware Committee for the Southeast Conference Student Hardware Competition. Jeffrey is a member of Tau Beta Pi, Golden Key, and the University Honors Associates, a campus honors organization. Jeffrey has tutored for both Eta Kappa Nu and Tau Beta Pi.

Jeffrey was the leader for the Autonomous Vehicle Design Project as well as a member of the Sensing and Controls Group and the Computer Vision Group for the project. The project was awarded Second Place in the Team Category at the 1993 International Science and Engineering Fair.

For his community, Jeffrey has organized various events for the Electrical Engineering Department, volunteered at the Engineering Open House,

at the Special Olympics in Blacksburg, and as a cook for Salvation Army. He has also performed at a Charity Concert in Concord, NC.

This summer Jeffrey will study ruins of Rome, Pompeii, Herculaneum and Ostia. He is writing a fictional account of a slave in Ancient Rome. He also enjoys playing the saxophone, volleyball, racquetball, and mountain biking.

Maria R. Brown, from the Zeta Theta Chapter at California State Polytechnic at Pomona, has served Eta Kappa Nu as the Chair or Co-chair of several committees. She has led the Society of Women Engineers as their Vice President and Secretary in addition to her many activities with these organizations. Maria was the Organizing Chair for the Women's Annual Opening Reception for two years and has served on the Engineering Council. She has served her college as a volunteer for the Student Shadow Program. In addition, Maria is an active member of Tau Beta Pi and IEEE.

Maria's community service includes blood donations, participating in Aids Walk for Life, and in the Bakersfield Women's Junior League Student Clothes Drive. She has organized an International Food Fair at Cal Poly Pomona and participates annually in the Engineering Week Celebrations. Maria also actively promotes Cal Poly Pomona to both potential students and to industry.

She has worked at Northrop Grumman and at Cal Poly Pomona in the Computer Lab, the Electrical Engineering Lab, and in the Academic Excellence Math Workshop which provides tutoring and peer counseling for minority students. In Electrical Engineering, Maria's focus is on electronic rf design.

HONORABLE MENTIONS

Gil Alterovitz	Sigma Chapter	Carnegie Mellon University
Jennifer Dehne	Delta Zeta Chapter	Washington University
Jeffrey H. McClure	Delta Nu Chapter	University of Alabama
Wendy M. Okamura	Delta Omega Chapter	University of Hawaii-Manoa
Jeffrey T. Ross	Gamma Beta Chapter	Northeastern University

Eta Kappa Nu congratulates **Ashwin Viswanathan** on being selected as the **Norman R. Carson Award Winner for 1997** and all the winners for their achievements and their contributions to their universities and communities.



Left to Right: Professor Paul L. Penfield, Jr., EECS Department Head; Winner, Ashwin Viswanathan; John A. Tucker, Presenter of Award; Nimisha Mehta, President, Beta Theta Chapter

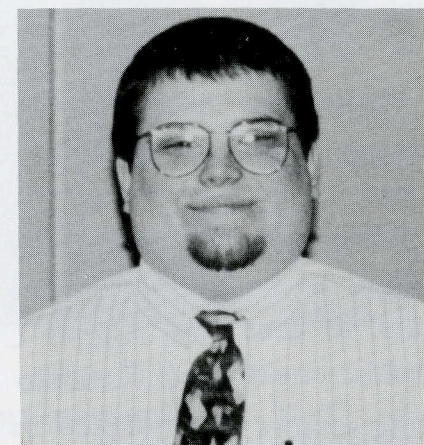


Left to Right: Gabriela Hernandez, Vice President, Gamma Beta Chapter; John A. Tucker, Presenter of Award; Jeffrey T. Ross, President, Gamma Beta Chapter and Honorable Mention Winner; Professor Jeffrey Hopwood, Gamma Beta Faculty Advisor

Photo by Professor Proakis

**Northeastern University, Boston MA
JOINT AWARDS DINNER - BACK BAY HILTON
BOSTON MA - MAY 16, 1997**

**John A. Tucker Presents
NORMAN R. CARSON OUTSTANDING JUNIOR AWARD
"Honorable Mention"
to**



JEFFRY T. ROSS

(Professor John G. Proakis, Head of NU's Electrical & Computer Engineering Dept., introduces John A. Tucker of MIT)

**"Thank you, Professor Proakis,
for your kind introduction..."**

...What a memorable occasion this is for me! Forty-seven years ago, on March 4, 1950, I was on NU's campus attending an Installation Banquet celebrating the establishment of Eta Kappa Nu's Gamma Beta Chapter—which subsequently has honored the scholastic achievements of many Northeastern electrical engineering and computer science students! As Chairman of Gamma Beta's Organizing Petitioners, I've received great satisfaction in seeing our efforts bear fruit over the intervening years.

Let me briefly acquaint you with how this Chapter was founded.

In the Fall of 1946, I returned to Northeastern to complete my BS in Electrical Engineering, which had been interrupted by service in World War II. A Signal Corps buddy of mine attending the Illinois Institute of Technology, told me of his being elected to the Eta Kappa Nu Honor Society.

I had always competed with this fellow and couldn't let him get ahead of me with this new honor! So I inquired about the membership requirements of that Honor Society and felt I, too, was qualified. Here at Northeastern, where I was then a Junior, I had been initiated into Massachusetts Epsilon's Tau Beta Pi Chapter, the National Engineering Honorary equivalent of Phi Beta Kappa, and was elected Chapter Vice President in my senior year, 1949. I gathered to-

gether my other EE Tau Bate classmates, told them about Eta Kappa Nu, and we decided to petition the University and the Association for establishment of a Chapter at Northeastern.

I was elected Chairman of this Organizing Petitioners Committee and we compiled a detailed presentation of Northeastern's curriculum and prepared a formal Petition (which I have here).

Endorsement was required by Northeastern's administration and I remember well meetings with then President Carl S. Ell; Dean of Engineering, William T. Alexander; and Director of Day Colleges (later to be Vice President), William C. White, to gain their support. All heartily approved!

Because we were now graduating seniors, we then recruited a second group of EE students to carry on the submission of the approved Petition to Eta Kappa Nu's 1949 Summer Convention. The Convention heartily approved our Petition and in the fall of '49 plans were made for the installation of Gamma Beta Chapter.

It's interesting to note that Officers from MIT's Beta Theta Chapter, where I've subsequently served as Faculty Advisor for 26 years, assisted with that installation.

I went on for graduate study as Northeastern's first EE student to attend Yale University's Graduate School of Engineering, and was granted a Thomas A. Edison Fellowship, helpfully obtained by NU's EE Department Head, Professor Roland G. Porter.

I came back from New Haven in March 1950 for Gamma Beta's Installation, along with several others of the Organizing Petitioners still in the Boston area.

Significant Departmental help and support for this project was given by Northeastern's late EE Professor Laurence F. Cleveland who subsequently served as the Chapter's Faculty Advisor for many years and with whom I kept in personal contact both while I was at Bell Telephone Laboratories and then at MIT.

So—, besides keeping up with my WW II buddy, I also succeeded in establishing a new tradition for the current Electrical & Computer Engineering Department at Northeastern!

In subsequent years I became involved with Eta Kappa Nu as President of the Boston Alumni Chapter and through election to the National Board of Directors and have conducted several Eminent Member inductions of prominent Engineers and Scientists!!

This national affiliation with Eta Kappa Nu is another reason for my being at this Awards Dinner, tonight. Many of you know that one of your classmates has been selected for "Honorable Mention" in the national competition for Eta Kappa Nu's Outstanding Junior Award. I have been asked to present this Award on behalf of the Associations National Officers.

Will Jeffry T. Ross

Please Come Forward!

Jeffry, from what you've already heard from me, you can understand why it gives me much personal pleasure to present to you this Honorable Mention Award in Eta Kappa Nu's 1997 Norman R. Carson Outstanding Junior national competition.

Please accept not only my **Congratulations**, but those of Eta Kappa Nu's National Officers! **Thank You All! "**



Left to Right: Jeffry T. Ross, Honorable Mention Winner, Receives Congratulations from MIT's Mr. John A. Tucker

Photo by Professor Proakis



Left to Right: Professor Jeffrey Hopwood, Gamma Beta Faculty Advisor; Gabriela Hernandez, Gamma Beta Vice President; Roger Marino, Banquet Speaker; John A. Tucker; and Honorable Mention Winner Jeffry T. Ross

Photo by Professor Proakis

JERRY M. WOODALL

1997 WINNER

VLADIMIR KARAPETOFF EMINENT MEMBERS' AWARD

by

Nancy T. Hantman

Jerry M. Woodall was the recipient of Eta Kappa Nu's Vladimir Karapetoff Eminent Members' Award during the annual recognition banquet in Princeton, NJ, on May 5. The Charles William Harrison Distinguished Professor of Microelectronics in the electrical engineering department at Purdue University, Dr. Woodall is the sixth recipient of the Karapetoff award. In presenting him with the certificate and honorarium, HKN President Robert Egbert cited Dr. Woodall's invention of the GaAlAs/GaAs heterojunction, and the invention, development, and realization of devices using this materials system.

Dr. Woodall received the B.S. degree in metallurgy from MIT and the Ph.D. degree in electrical engineering from Cornell University. He joined Clevite Transistor Products in 1960. In 1962 he became a research staff member at IBM, and in 1985 was named an IBM Fellow. In 1993 he joined the faculty of Purdue University. A Fellow of the Institute of Electrical and Electronics Engineers (IEEE), he was cited for his "contributions to the preparation of compound semiconductor structures and devices for high-speed and optoelectronic applications."

The holder or co-holder of 67 patents and author or co-author of more than 270 publications, Dr. Woodall has also earned 36 IBM and nine NASA awards for his inventions and innovations. He has received the IEEE Jack Morton Award, the American Vacuum Society Founders Medal and Award, the Electrochemical Society Solid State Science and Technology Award, and the Electronics Division Award of the Electrochemical Society.

Dr. Woodall is currently president of the American Vacuum Society, and a member of the Electron Devices Society Administrative Committee, the Beckman Institute External Advisory Committee, the Advisory Board of the JPL Center for Space Microelectronic Technology, and the Advisory Committee for the New York State Center for Advanced Telecommunication

Technology. He is also the director of the National Science Foundation Materials Research Science and Engineering Center for Technology-Enabling Heterostructure Materials.

Dr. Woodall was introduced by his nominator, Dean Richard Schwartz of Purdue University. Dr. Schwartz spoke of Dr. Woodall's abilities as a mentor and collaborator, and one who "leaves behind a trail of ideas" and "always shares the credit." Dr. Woodall himself, in accepting the Karapetoff Award, advised those in midcareer to be mentors and collaborators. For those starting their careers, his advice was to "forget everything you learned" and test ideas first before reading the literature, and to be sure a job was fun "because life is not worth it otherwise."

The Vladimir Karapetoff Eminent Members' Award is given to an electrical engineering practitioner for career achievement. It recognizes that the recipient has distinguished him- or herself through an invention, development, or discovery in the field that has had a major impact on society through the improvement of the standard of living, the public welfare, and/or global stability. The award was established in honor and through the estate of Vladimir Karapetoff, an Eminent Member of Eta Kappa Nu and a Fellow of the IEEE. The fund to support the award was initiated through a bequest from Dr. Karapetoff's widow, R. M. Karapetoff Cobb, a chemical engineer. Dr. Karapetoff emigrated from St. Petersburg, Russia in 1902. He became a U.S. citizen in 1909, and was a professor at Cornell University from 1904 until his retirement in 1939.

The Karapetoff award is administered by the HKN Eminent Members' Committee. Nominations are now being accepted for the 1998 award. For nomination forms or information, the contact is Donald Christiansen, Chairman, VKEMA, 434 West Main Street, Huntington, NY 11743; Fax 516-385-4940.

1997

Eta Kappa Nu Awards Banquet

by

Ralph J. Preiss

Member

Awards Organization Committee

The Eta Kappa Nu Association held its annual Awards Banquet once again to honor the outstanding young electrical engineers of the year, the early achievers, and to bestow the Vladimir Karapetoff Eminent Members' Award on the outstanding senior electrical engineer of the year, for a life-time of achievement.

Professor Scott T. Acton, Associate Professor at Oklahoma State University, Stillwater, was honored as the Outstanding Young Electrical Engineer of 1996 at this sixty-first awards banquet on May 5, 1997 at the Princeton Marriott in Princeton, New Jersey. Frank Lane, Hitachi America, Ltd., Advanced Television Systems Laboratory, Princeton, New Jersey, and Thomas F. LaPorta, Lucent Technologies, Bell Laboratories, Holmdel, New Jersey, were presented with Honorable Mentions. Three new finalists were announced for possible further consideration in next year's judging. These three include Banu Rahime Özden of Lucent Technologies, Bell Labs, Murray Hill, New Jersey; Kristofer S. J. Pister, University of California, Los Angeles at the time of nomination, (University of California, Berkeley currently) and David Norman Smargon, of Raytheon, E-Systems, Goleta, California.

Jerry M. Woodall, inventor of the gallium-

aluminum-arsenite/gallium-arsenite heterojunction, was honored with the Karapetoff Award. A separate story covers this recipient elsewhere in this issue.

The banquet was preceded by a get-together between board members of the Eta Kappa Nu Association and undergraduate HKN officers from Princeton, Drexel, Villanova, Rutgers, and the University of Pennsylvania. In addition, hors d'oeuvres were served outside the banquet hall as banquet participants arrived and picked up their name tags and mingled among the honorees and their guests.

When the banquet hall opened, the guests found their tables by the numbers written on their name tags. The large round tables were arranged in two rows. A platform with a podium was standing in the center of the left wall of the banquet hall, with a large banner of Eta Kappa Nu tacked to the wall behind it. Standing against the wall also, to the left of the platform, was a table with the award plaques displayed, together with the OYEE large bowl with sixty-one winners engraved on it and a smaller replica bowl with Scott Acton's name on it.

Frank Lane, and wife, Holly, found their way to the Hitachi America table with Frank's proud

parents, Robert and Adelaide Lane. His nominator, John Henderson, and wife, Nancy, and one of his references, Bede Liu, Chair of the EE Department at Princeton University, were also seated at this table, together with other Hitachi colleagues, Scott Manchester and Jack Fuhrer, Senior Director, with wife, Susan.

Scott Acton, surrounded by family members Leslie and Gracene Acton walked to the Oklahoma State University table. Molly and Trey Holm, James and Janice Conkwright, John and Sylvia Sellers, and Karl Reid, EE Department Chair and Scott Acton's nominator, were already seated there.

Jerry Woodall was seated with Susan and Serena Woodall at the Karapetoff Award table. Also at that table were Richard Schwartz, his nominator from Purdue University, with Mary Jo Schwartz, Donald Christiansen, the Chair of the Karapetoff Award Committee, Nancy Hantman, IEEE Spectrum and Assistant to the Karapetoff Award Committee, and Fern Katronetsky, IEEE and Member of the AOC Dinner Committee.

Thomas LaPorta and his parents, Edward and Roxanna LaPorta were gathered at the Lucent Technologies, Holmdel, table, together with Krishan Sabnani, his Department Head and nominator, and colleagues from Lucent, including Scott Miller, Thomas Woo, Richard Buskens, and Ramachandran Ramjee.

Chairman of the Awards Organization Committee, and Master of Ceremonies for the evening, Bob Bartolini, Sarnoff Vice President, with wife, Janice, were seated at the Sarnoff Corporation table. So were colleagues, Bill Mayweather, 1995 OYEE Honorable Mention, and his wife, Theresa; Mike Isnardi, 1988 OYEE Honorable Mention with Katherine; Karen and Li Hu; and Maurice Caldwell.

Claud Davis and Ralph Preiss, AOC Member, co-hosted the IBM table for Villanova University HKN Student President Joseph Horwath, and Vice President, Jennifer Miceli; University of Pennsylvania Professor Sohrab Rabii and HKN

Student President, Mansoo Sirinathsingh; Drexel University HKN Student President, Louis Litwin, and Faculty Adviser, Professor Bahram Nabet; and John D'Arcy, Penn State University.

Jim D'Arcy, former Eta Kappa Nu President, sat at the Lockheed Martin table with his wife, Beatrice; as well as Lockheed Martin colleagues, John Logrando and wife, Joan; John Kowalchik and wife, Holly; Lou D'Angelo and wife, Kathy; and Steve Dowzicky.

Banu Rahime Özden, 1996 OYEE Finalist, was seated at the Bell Labs-Lucent Technologies, Murray Hill, table with Avi Silberschatz, her nominator; Eran Gabber and Marilyn Turnamian, her colleagues; Bert Sheffield, AOC Member, and host to Carla Wilkinson, widow of the founder of the OYEE Award; Mark Adamiak, 1985 OYEE and AOC Member, with wife, Susan; Ralph Wyndrum, Jr., a 1996 Juror, with wife, Meta.

Seated at the Board of Directors table were Robert Egbert, 1996/97 HKN President; J. Robert Betten, HKN Executive Secretary; Richard Gowen, Director, and wife, Nancy; Mohammad Shahidepour, Director; Ronald Hoelzeman, Director; Bob Arehart, Past President, and wife, Helen.

Jim Hebson, Jr., AOC Member hosted the PSE&G table, where Professor David Daut of Rutgers University, a 1996 Juror, and two HKN student officers from Rutgers, Christopher Alvino and Heather Durko were placed. Also seated at that table were, colleagues of Hebson's, Peter Balma, William Labos, Ken Oexle, Dennis Sobieski and Stephen Mallard, a 1996 Juror.

Dr. Bartolini, the Master of Ceremonies, started the proceedings by introducing several people at the dinner who were either former OYEEs, Honorable Mentions, Jurors, or members of the Board of Directors. Then he called Don Christiansen to the podium to proceed with the Karapetoff award presentation, assisted by Dr. Robert Egbert, the Eta Kappa Nu Association President.

Next, Dr. Bartolini announced the three finalists in the 1996 search for the Outstanding Young Electrical Engineer. Professor Kristofer Pister and David Smargon, two of the finalists, unfortunately, could not attend the banquet to accept their citations in person, so their plaques will be mailed to them.

Dr. Kristofer Pister received his BS in Applied Physics in 1986 and went on for his MSEE and Ph.D. at the University of California, Berkeley, where he received his degrees in 1989 and 1992 respectively. He founded Micro Electro-Mechanical System (MEMS) Research when he joined the faculty at the University of California, Los Angeles in 1992. Since then, he has built up a large program encompassing many different, but interrelated projects, including the design and modeling of microsensors and microactuators, structured design methodologies for MEMS, and microrobotics involving many faculty members. His two greatest contributions to the field are his development of three-dimensional hinged and interlocking microstructures, and his introduction of xenon difluoride etchant for release of surface-micromachined CMOS structures. He returned to Berkeley in the fall of 1996 as Associate Professor, where his seminal Ph.D. research on polysilicon hinged structures has spurred the continued development of micro-opto-mechanical systems. Father of three children, Dr. Pister organizes neighborhood caroling, is interested in popularizing science and engineering through films, and pursues his hobby of carpentry.

David Smargon, a 1986 graduate of the University of Massachusetts, with an MSEE in 1989, was chosen as finalist because of his contributions to E-Systems, a Raytheon Company. He used his knowledge of microwave integrated circuit design to create cost-effective amplifiers and hybrid circuits and rapidly became the lead engineer for microwave component development for the company's phased transmitter applications. He later turned around (from failure) a digital radio frequency memory manufacturing job by judiciously applying his and his colleagues' inge-

nulty to solving the problems plaguing the system. He has since been promoted to Manager of Receiver Design, where he continues to demonstrate his breadth of technical expertise, sound judgment, and leadership qualities. David Smargon, father of two, has always supported the community at large by teaching, fund-raising, and hands-on community activities. He and his family found themselves on the receiving end of a giving community, when they lost their home and possessions in the Painted Cave fire in Santa Barbara several years ago. That experience has further bolstered David's commitment to leadership in community activities.

Dr. Banu Rahime Özden was present at the banquet, and she, together with Avi Silberschatz, her nominator, were called to the podium where Dr. Egbert presented her with her Finalist plaque. Dr. Özden, a 1986 graduate of the Istanbul Technical University, went on to the University of Texas, Austin as a Research Assistant to earn her MSEE in 1990, and her Ph.D. in 1995. She took summer jobs at the IBM T. J. Watson Research Center in 1989, 1990, and 1991, where she worked on parallel programming algorithms. She finally joined AT&T Bell Labs in 1993, where she continues to work on new operating systems, handling continuous media files, video-on-demand servers, and non-intrusive load-sharing algorithms. Dr. Özden is author or co-author of nearly 20 refereed papers, has written a number of book chapters, has four awarded patents and eleven patent submissions, and has been a sought-after speaker, serving as keynote speaker at four technical conferences. In her spare time, she tutors high school students in German, mathematics, physics, chemistry and biology. In addition, she plays the piano, participates in folk dancing contests, and enjoys widening her cultural appreciation through foreign travel.

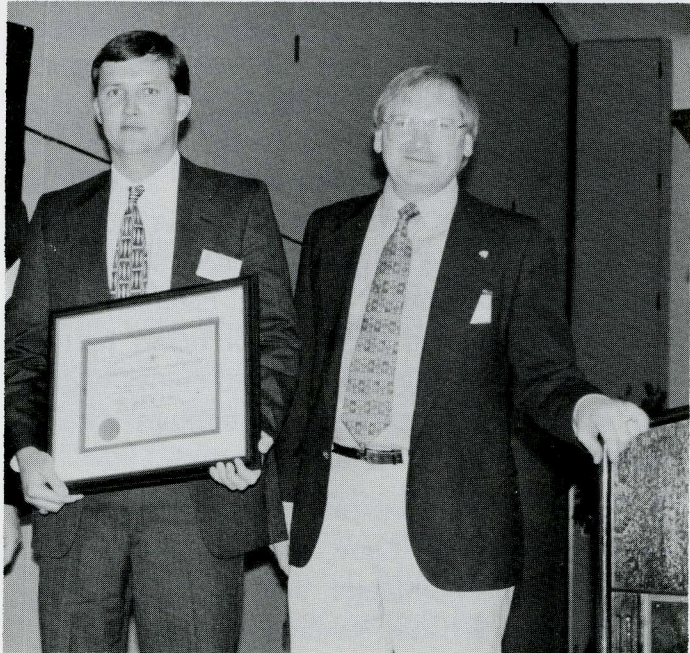
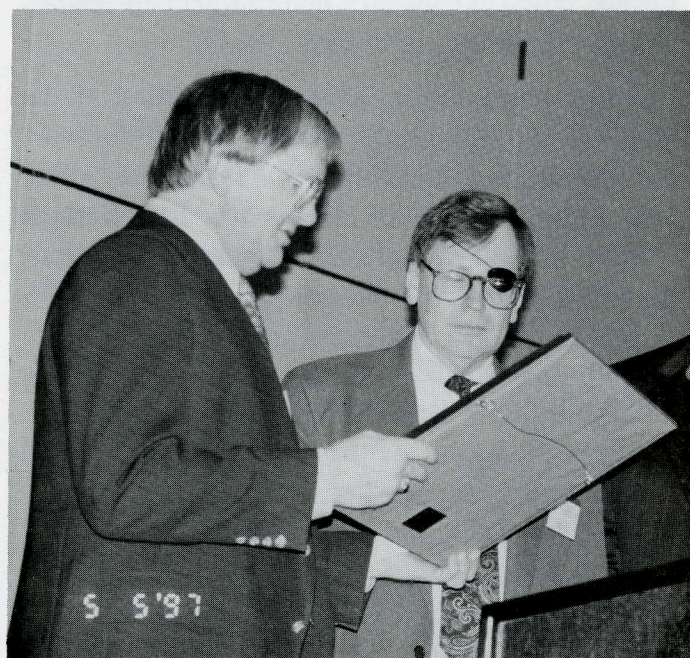
Dr. Egbert then presented Honorable Mention plaques to Frank Lane, introduced by John Henderson, his nominator, and Thomas LaPorta, introduced by Krishan Sabnani, his nominator.

Finally, Professor Scott Acton, the Outstanding Young Electrical Engineer of 1996 was introduced by his nominator, Prof. Karl Reid, and Dr. Egbert presented him both the 1996 OYEE Certificate and the small OYEE bowl with his name engraved on it. Dr. Bartolini in turn suggested Dr. Acton step down from the podium and see his name engraved as the 1996 OYEE on the large bowl on the table. This large bowl is kept outside the IEEE

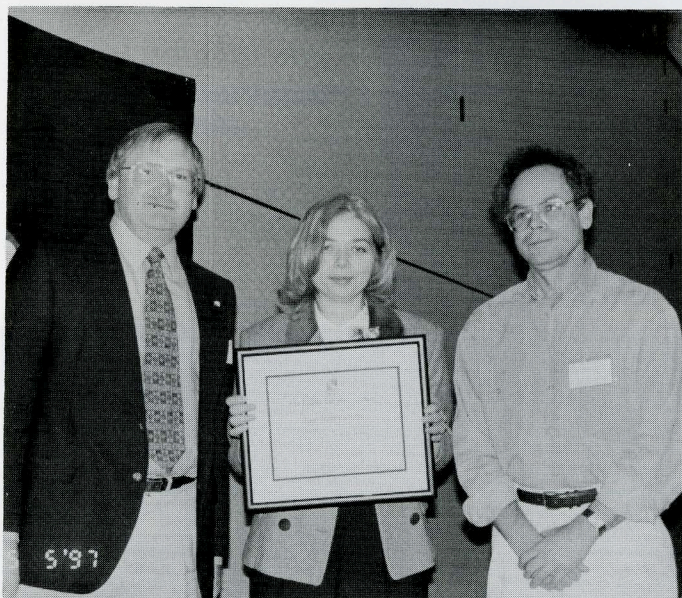
Board room on permanent exhibit.

After a short acceptance speech, and a surprise letter of greetings from a special person read by the Master of Ceremonies, the evening's proceedings came to a close. All look forward to our next banquet in 1998.

Biographical material pertaining to Mr. Lane, Dr. LaPorta, and Professor Acton may be found in the May, 1997 issue of *The Bridge*.



Photos: At top left, Jerry Woodall receives Karapetoff Award Certificate from President Egbert. At top right, Dr. Woodall is flanked by Karapetoff Award Coordinator, Donald Christiansen, and Nominator Professor Richard Schwartz. At bottom left, Scott Acton receives OYEE Winner Certificate from Dr. Egbert.



Photos: At top left, President Egbert smiles as Winner, Jerry Woodall, displays Karapetoff Award Certificate. At top right, OYEE Winner, Scott Acton, listens as OYEE Coordinator, Dr. Robert Bartolini, reads congratulatory letter to Scott from President Bill Clinton. At center left, Honorable Mention Winner Frank Lane, holding certificate, is flanked by Dr. Egbert and John Henderson. At center right, Honorable Mention Winner Thomas LaPorta, holding Certificate, is flanked by Dr. Egbert, and Krishan Sabnani. At bottom left, Finalist, Banu Rahime Ozden, holding Certificate, is flanked by Dr. Egbert and Avi Siberschatz.

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