BRIDGE of Eta Kappa Nu

Dr. Wen-mei Hwu

Wins 1997
C. Holmes MacDonald
Outstanding Teacher
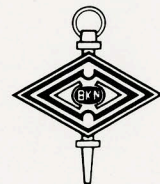## Award

Contents

Become a Paul K. Hudson Fellow

Do it Today!

See Details on Page 3.

ALSO VIST HKN's WWW HOME PAGE

http://www.umr.edu/~hknhdqrs

PAUL K. HUDSON HKN DEVELOPMENT FUND ANNUAL CAMPAIGN

Paul K. Hudson
1916-1988

Eta Kappa Nu Executive Secretary and BRIDGE Editor, 1958-1988

Established by the Board of Directors in April 1992, this important fund will honor the memory of Paul Hudson, a devoted servant of HKN and a man who truly exemplified the qualities that "balance the bridge."

The Hudson fund, managed by the HKN Board of Directors, will be used to support the general development of Eta Kappa Nu. For example, the fund will be used where necessary to help support HKN's national award programs; expansion, including the development of new college chapters and alumni chapters; and chapter visitations by current and past national officers and directors to assist with special occasions. All of these examples represent activities which Paul so heartily endorsed. Other developmental projects will be considered by the Board as funding grows and new objectives important to HKN become established.

As we honor Paul, we also honor donors to the fund by recognizing them as Paul K. Hudson Fellows. Five levels of giving are recognized, as in the form below. One-time donations at any level will be gratefully accepted. In addition, donors may now make pledges for annual donations. All donations will be counted cumulatively for the purpose of establishing the donor's current level of giving. Fellows at each level will be recognized annually by name in the BRIDGE.

Eta Kappa Nu thanks those who have already become Paul K. Hudson Fellows. We invite all members and friends of HKN to join the growing list of Fellows. And whether or not you are presently a Fellow, consider extending your support of the Hudson Fund on an annual basis. Simply fill out and return the form below. Thank you for your part in supporting and strengthening Eta Kappa Nu.

____I wish to become a Paul K. Hudson Fellow at the level of (check one)

    ____Distinguished Fellow ($2000 and above)

    ____Century Fellow ($1000 - $1999)   ____Sustaining Fellow ($500 - $999)

    ____Supporting Fellow ($100 - $499)   ____Fellow ($25 - $99)

with the enclosed contribution of $_____.

____I wish to pledge a total of $_____ to the Hudson Fund, at $_____ per year for _____ years, beginning _____.

NAME _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

Return to: Eta Kappa Nu International Headquarters   University of Missouri-Rolla
                 Box HKN   Rolla, Missouri 65401

Zerby–Koerner Student Profile

The Alton B. Zerby and Carl T. Koerner Outstanding Electrical Engineering Student is outstanding by virtue of his/her scholastic excellence and high moral character; coupled with demonstrated exemplary service to classmates, university, community, and country.

Among the purposes which Eta Kappa Nu expects to achieve by the operation of this program are: Honor annually the outstanding electrical engineering student by providing accepted recognition of accomplishments in this field; Recognize the outstanding electrical engineering student's school; Motivate electrical engineering students to earn membership in Eta Kappa Nu; Distinguish the undergraduate chapter of Eta Kappa Nu from which the outstanding EE student was chosen; Provide additional opportunity for publicity and recognition of the Eta Kappa Nu Association and its objectives; and Encourage electrical engineering schools not having a chapter of Eta Kappa Nu to qualify and establish a chapter.

Inaugurated in 1965 as the Outstanding Electrical Engineering Student Award Program of Eta Kappa Nu, it has become a traditional means of providing recognition to deserving Electrical Engineering Students in the United States of America. In 1975 the name was changed to "The Alton B. Zerby Outstanding Electrical Engineering Student Award" to honor and perpetuate the memory of Mr. Zerby, a long time leader and Executive Secretary of Eta Kappa Nu, who was dedicated to the students. In 1993 the name was further changed to include Carl T. Koerner, to honor and perpetuate the memory of brother Carl, who had a lifelong dedication to Eta Kappa Nu, including serving as its President; and his selection as the fifth recipient of the prestigious Eta Kappa Nu Distinguished Service Award in 1975 in recognition of his contributions to electrical engineering and Eta Kappa Nu.

This award considers not only the scholastic achievements of the stu-

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THE
ALTON B. ZERBY and CARL T. KOERNER
OUTSTANDING ELECTRICAL ENGINEERING STUDENT
AWARD

**Text by
Marcus Dodson**

THE INTERNATIONAL ETA KAPPA NU ASSOCIATION
1997

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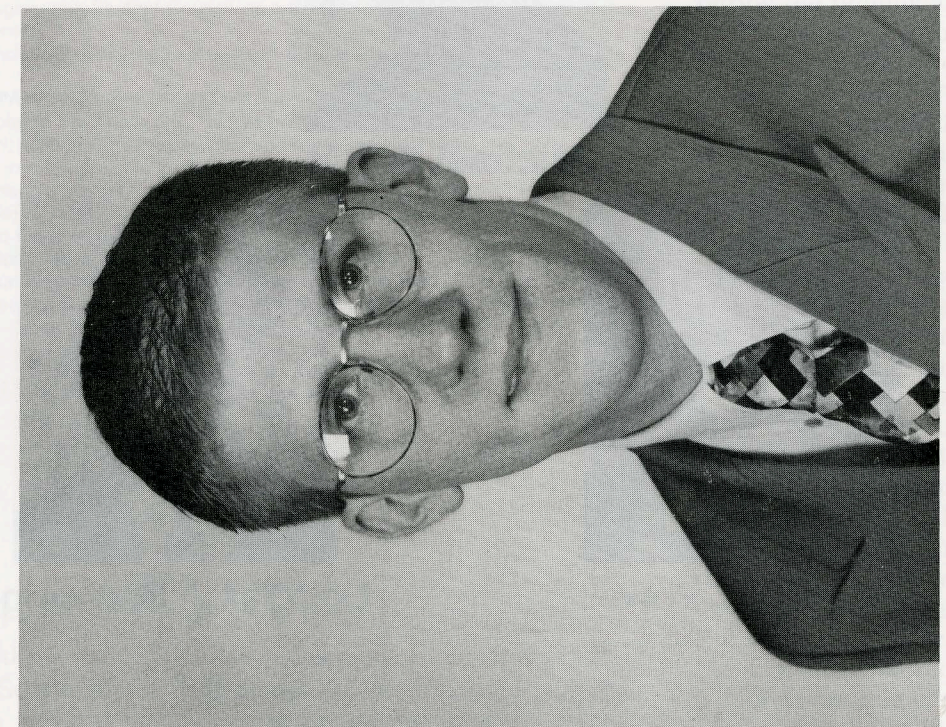
LOUIS R. LITWIN JR. graduated from Drexel University with a GPA of 3.88. He is a member of Eta Kappa Nu, where was President, Tau Beta Pi, where he was Vice-President, Kappa Theta Epsilon, Phi Eta Sigma, and Phi Sigma Tau. He was an A.J. Drexel scholar, a member of Mensa, IEEE, United States Chess Federation, Drexel University Honors Program, and the Drexel University Student Support Services.

As President of Drexel's Eta Kappa Nu chapter, he effected the re-establishment of the chapter which had been inactive for several years.

Mr. Litwin has a year and a half of industry experience at three different companies as a result of Drexel's Co-operative Education program. He performed research on GPS systems while employed at Robotic Systems Technology in Westminster, Maryland, and he co-authored a publication on the subject entitled "MDARS-Exterior GPS Survey; Evaluating Current DGPS Systems For Suitability For Autonomous Vehicle Navigation" which appeared in *Unmanned Systems*, Spring 1995. His latest co-op experience was at General Instrument where he developed a Time Division Multiple Access (TDMA) prototype. This project involved creating two chip designs, designing a circuit board, and writing software in three languages for data analysis; and the user interface. He performed research at Drexel in the area of speech coding and enhancement.

Louis was a tutor in Calculus during his sophomore year at Drexel. He was a Peer Mentor for freshmen students, where he met with students to help them adjust to college and develop good study habits.

His hobbies include guitar, mountain biking, tennis, chess, reading, and poetry. He is a published poet. One of his poems, "An Ode To A Someone, Written By A No One," was published in *Treasured Poems Of America*, Fall 1997 Edition. Several of his poems have been in Drexel publications as well, including the *Maya*, Drexel's literary magazine.

THE
ALTON B. ZERBY and CARL T. KOERNER
OUTSTANDING ELECTRICAL ENGINEERING STUDENT
AWARD
1997

**LOUIS ROBERT LITWIN, JR.
Winner**

THE
ALTON B. ZERBY and CARL T. KOERNER
OUTSTANDING ELECTRICAL ENGINEERING STUDENT
AWARD
1997 HONORABLE MENTIONS
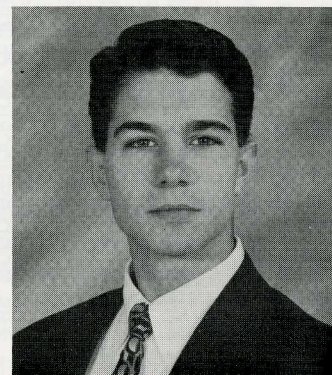
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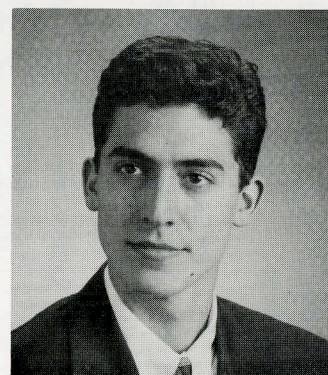
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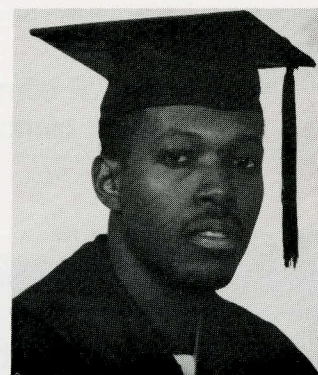
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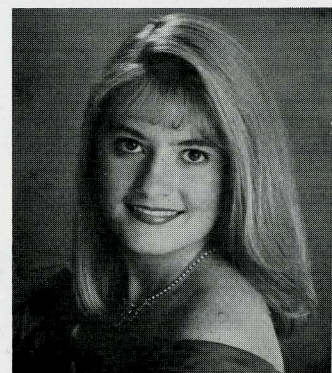
Veronica L. Powell
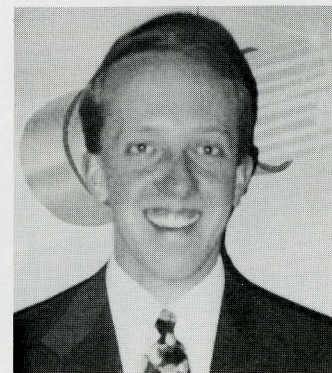
Douglas J. Spannring

DAVID JOHN CRESCI, with a 3.69 GPA, graduated from the Pennsylvania State University, was nominated by the Epsilon Chapter of Eta Kappa Nu. He was honored with membership in Golden Key, Penn State Engineering Round Table, Tau Beta Pi and Eta Kappa Nu. He is a member of IEEE.

While doing research in the area of communications, specifically the design of a data acquisition telemetry system, he developed a paper suitable for presentation at the student paper contest at IEEE Region 2 meeting. While David was the Student Branch President of IEEE, he was also serving on the Student Advisory Board, thus he was involved in many projects in the EE Department.

David interned at Microwave power Devices, Inc., where he did digital hardware design for a radar environment simulator project. He also did volunteer tutoring, and is active in his church.

He enjoys tinkering with household appliances, electronic design, stock market analysis and playing soccer.

JONATHAN CHARLES GESKE, with a GPA of 4.0, graduated from the University of Southern California, and was nominated by the Upsilon Chapter of Eta Kappa Nu. He was Tau Beta Pi President, and HKN Vice-President. He is also a member of IEEE.

Jon was a student representative to many school activities, such as NASA High School Outreach Program, Preview USC, USC Explore Engineering as well as successfully organizing a series of lectures for HKN. Also, he was a volunteer for Habitat for Humanity and other community projects.

His research projects led to two co-authored papers on VCSELs to be published in IEEE Photonics Technology Letters and IEEE Journal of Selected Topics in Quantum Electronics. Jon also presented a Virtual reality glove that he designed and built, to an international symposium in Houston, Texas.

Jon enjoys the outdoor sports of camping, skiing, running and roller hockey.

MICHAEL DEMOND HILL graduated with a 4.0 GPA from Tuskegee University. He has been honored with membership in Alpha Kappa Mu, and is an officer in Pi Mu Epsilon, Golden Key as well as Eta Kappa Nu. He is a member of IEEE and the National Society of Black Engineers (NSBE).

Michael interned with the US Geological Survey, Mercury, NV, working on the Yucca Mountain Site Characterization Project. There, he programmed data loggers, calibrated gauges, and processed rock core using CX2. He has worked at GE Appliances in Louisville where he was the Instrument Gage Calibration Coordinator.

Michael was a volunteer in the Junior Achievement program, which provides tutorials for high school students. He also is a volunteer in the Habitat for Humanity program, providing houses for the financially disadvantaged.

His hobbies include sketching designs, repairing electrical devices and playing golf.

VERONICA LENA POWELL, first in her class, with a GPA of 4.0, will graduate from the University of Alabama, Birmingham, was nominated by the Iota Alpha Chapter of Eta Kappa Nu. She has been honored with membership in Tau Beta Pi, Golden Key, Phi Kappa Phi, and Alpha Lambda Delta as well as Eta Kappa Nu.

As IEEE Chair she organized events, both social and technical, thus was able to bring engineers from industry to interact with students one-on-one. The Alabama Section of IEEE recognized Veronica as their Outstanding Student of the Year for 1997.

She presented a student paper entitled "Internet Technology as a Job Search Medium" to IEEE, in 1997. Veronica worked in the EE Department, both as an employee and as a volunteer. She has served on the Engineering Student Council, as a Peer Advisor and as a volunteer at the Woodlawn Community Center.

Veronica's activities include figure skating, racquet ball, gymnastics and computer programming.

DOUGLAS JOHN SPANNRING, with a 3.94 GPA, graduated from Iowa State University, was nominated by the Nu Chapter of Eta Kappa Nu. He was honored with membership in Golden Key, Pi Mu Epsilon, Tau Beta Pi, holding numerous offices, and served as HKN President.

Douglas participated in many projects for the EE Department, including the renovation of the front of the EE building in such a way as to recognize and incorporate the EE forefathers and their contributions to the art. He worked as a computer consultant for the EE Department, tutored and interned with both IBM and McDonnell-Douglas.

He was involved in Honor Society programs, both technical and social, and was a member of the student government that dealt with student housing and residence halls.

Douglas enjoys the outdoors: running, hiking and biking in the mountains, as well as team sports.

1997 Finalists:

Marie Antoniette Flores	Calif. State Polytechnic Univ., Pomona
James Michael Jula	California State Univ., Chico
Matthew Robert Schneider	Universitu of Wisconson, Platteville
Mona Lisa Tyson	Southern University and A&M

dent but also pays attention to other attributes; participation in service to classmates and university in the form of curricular and extra-curricular activities, demonstrated interest in community and fellow human beings, and regard for country. These all play a vital part in the considerations leading to being selected. It also measures the student against the traditional yardstick established by Eta Kappa Nu in its goal of achievement of the well-rounded person; one who is neither a scholarly drudge nor a gregarious sport, but one that might be considered an appropriate combination of the best qualities of both.

Four years were spent in the development of this program by the Los Angeles Alumni Chapter of Eta Kappa Nu. Much thought and effort went into the structuring and development of the many features that are needed, and the procedures which must be followed to be assured that a truly representative selection of the top Electrical Engineering students have been examined before the designation of one of these individuals as the Outstanding Electrical Engineering Student.

The program, thoroughly reviewed with the National Executive Council and the Board of Directors during the preliminary stages of its development, is formally approved and authorized as an official program of the Eta Kappa Nu Association. The Los Angeles Alumni Chapter has been designated as the implementing organization and has been authorized by the Executive Council to conduct the program.

The award winner's travel and expenses are covered by financial support from the Alton B. Zerby Trust Fund. An honorarium for the winner is made possible by the Carl T. Koerner Memorial Trust Fund, established in 1978 by his widow Edie Koerner and a large number of Carl's relatives and friends. Both Trust Funds, were established to honor their namesakes, who made significant contributions to Eta Kappa Nu. The Trust participants and the Eta Kappa Nu Board of Directors felt it appropriate that earnings from the Trust Funds underwrite this award.
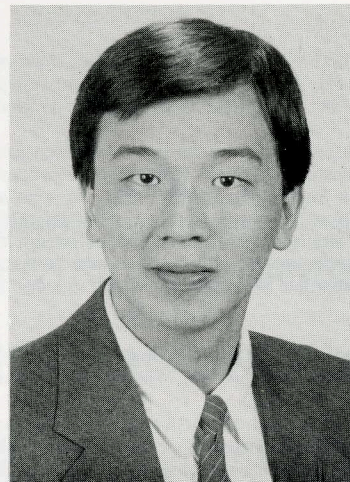
Dr. Wen-mei Hwu

Wins 1997
C. Holmes MacDonald
Outstanding Teacher Award

by Robert F. Arehart

Dr. Wen-mei Hwu was nominated for the 1997 C. Holmes MacDonald Outstanding Teacher Award by Dr. N. Narayana Rao at The University of Illinois at Urbana.

Dr. Rao's comments and those of many other supporting students, faculty and administrators at various universities are **summarized** below:

Wen-mei Hwu merits the C. Holmes MacDonald Outstanding Teaching Award for his achievements of note in education; service to the community, state, and nation; and other exemplary contributions to the engineering profession as detailed below. In the area of classroom teaching, Professor Hwu is known to be one of the most inspiring teachers on the UIUC (University of Illinois at Urbana-Champaign) campus. He regularly teaches ECE 312: Computer Organization and Design, one of the most demanding courses in the Computer Engineering curriculum. In this course, students spend enormous amounts of energy studying the lecture material and working on the laboratory design projects.

Dr. Hwu is well known as a demanding teacher and yet he consistently receives excellent ratings from his students. In the past five years he has been listed in the Incomplete List of Teachers Ranked as Excellent every semester he taught ECE 312. In 1993, Professor Hwu was honored by the student chapter of Eta Kappa Nu at the University of Illinois as a faculty initiate to recognize his excellent teaching and advising activities. Furthermore, in 1993, Hwu was nominated by the student chapter of Eta Kappa Nu at the UIUC for the prestigious Everitt Award of the College of Engineering for excellence in teaching, and he received the Eta Kappa Nu Outstanding Electrical Engineer Award.

Professor Hwu has also been widely recognized by industry for his excellence in teaching. Industrial recruiters from HP, Intel, AMD, DEC, and AT&T explicitly ask the students if they have taken the Computer Organization and Design course from Hwu and count it as a major advantage in their evaluation. In the area of course development, Hwu has served as the course director for ECE 312.

He constantly updates the course to reflect the state of the art. He has developed this course into the flagship course of the Computer Engineering Curriculum. He developed the course to satisfy the many ABET requirements: design content, open-ended design, written reports with iterations, and oral presentation.

As an advisor to undergraduate students, Hwu has been recognized as excellent. His name appears on the Advisors List for Advising Excellence of the College of Engineering every year. This list consists of the top 10% of the advisors according to an independent student evaluation. Many of Hwu's advisees still go to him for advice after graduation. As Indira Gunda, one of Hwu's advisees puts it in a letter:

"Dear Professor Hwu,

As I am graduating from the University of Illinois, I am remembering how much I have been motivated by you. The semester I spent investigating context switching was an exciting experience for me. Being exposed to high caliber research and having the opportunity to interact with you was the highlight of my education. When I think back to why I have or have not enjoyed a specific area of electrical engineering, I can almost always attribute the reason to a good or bad professor I have known. You are by far the best professor I have had at the University of Illinois.'

'Even though you are busy with your research, you make time for your students. I would have thought with all the time your research takes, you would have to sacrifice time spent with your students. When a student needs help, you become available. I still can not believe you are available nights and on weekends for your students'.

'I have not even touched on your teaching. You forced me to look at computer architecture critically, not to accept the views I read in papers. It is easy to be misled by so many papers and so many ideas. A part of your teaching style is your ability to carefully listen to your students. Even though many times I did not know what I was talking about, you did not immediately criticize my ideas, but patiently listened until I clarified the topic. Too many professors criticize and then listen.'

'I consider the independent study I performed for you to be the pinnacle of my engineering education at the University of Illinois at Urbana-Champaign. Thank you for the opportunity! Sincerely......signed Indura Gunda"

In the nine short years of his teaching career to date, Hwu has produced eleven strong Ph.D.'s from his program. Dr. Pohua Chang is currently with Intel in charge of research for future X86 developments. Dr. Thomas Conte is an Assistant Professor at Electrical and Computer Engineering Department of the North Carolina State University. He has received the NSF CAREER Award. Dr. Aloke Gupta is with Hewlett-Packard Advanced Human Interface division. Dr. William Chen is with Intel in charge of the advanced code generation development for future P7/P8 microprocessors. Dr. Nancy Warter is on the faculty with the Electrical Engineering Department of the California State University in Los Angeles. She received the NSF Young Investigator Award in 1994. Dr. Sadun Anik and Dr. Scott Mahlke are at the HP Labs in charge of advanced instruction level parallel processing research. Dr. Dave Gallagher is an Assistant Professor at the Air Force Graduate School. Dr. Yoji Yamada is a department head at the Mazda Research Center, Japan. Dr. Roger Bringmann is the Vice President of Technology at QMS. Dr. Richard Hank is a research engineer for Hewlett Packard in Cupertino, California. All are pursuing successful careers in the area of Electrical and Computer Engineering. At the Masters level, Hwu has supervised 32 M.S. theses in the past 5 years alone. All his M.S. graduates have either continued for the Ph.D. or launched successful careers in industry.

Thus, Professor Hwu has an impeccable record in all aspects of teaching. He continues to nurture and challenge his students at both the undergraduate and the graduate levels.

Dr. Yale N. Patt, previously Ph.D. advisor to Dr. Hwu writes: I have known Professor Hwu since his first days as a graduate student at Berkeley in 1983. I have watched him develop over the past thirteen and one half years.

I have read your criteria carefully. It seems to me Professor Hwu is uniquely qualified in two of your criteria's, and has done creditable service in a third. I will elaborate on the two areas in which he is uniquely qualified for this award.

In the area of "Achievements of note in education," Professor Hwu has established an enviable record. I would like to add what I know from my personal observations.

Professor Hwu has developed a compiler capability in the ECE department at Illinois from ground zero. His research has resulted in prototype compilers that outperform those heralded by industry. His Ph.D. graduates (about a dozen already, although he has been out of school himself less than ten years) are highly sought after by the top companies. They hold key technical positions at Hewlett Packard, Intel, and other companies.

I have watched Professor Hwu give presentations in many different environments: at international con-

ferences (including the Keynote Address at the IEEE/ACM International Microarchitecture Symposium in 1995), at industry-sponsored research forums, at seminars in Michigan, and as guest lecturer to my graduate classes at Michigan. The story is always the same. He is thoroughly prepared, he is a careful lecturer, explains material well, and provides deep insights. My students regularly ask when he will come back and lecture again.

With respect to inspiring students, he is outstanding. He regularly directs the research of more than a dozen Ph.D. students, and has established a community of caring within his group that is a pleasure to watch. I have lectured at Illinois several times, and I continue to be amazed at the level of mutual respect and cooperation he has instilled in his students. They thoroughly rejoice in being a student of Professor Hwu -- and it shows. He continually promotes them. Whenever possible, they present the jointly-authored papers at international conferences, their names go first on the author list, their careers are the ones he carefully pays attention to.

In December, four papers were presented from Professor Hwu's group at the 29th International Conference on Microarchitecture in Paris. First, that large a number from one professor is unheard of. Second, and even more important in my view, each carried the name of a different first author (each a student of his), and the four papers were presented by those four students.

In the area of "exemplary contributions to the engineering profession," Professor Hwu also stands out. His research we have already touched on. I should add that his research is heavily funded by the computer industry, including such companies as Intel, Hewlett-Packard, AMD, IBM, and SUN. Each values the research productivity of his group, wants to collaborate with him, and hopes to hire his students when they graduate.

In addition to his research, he has moreover established himself as a leader in the professional community. He is this year, the Chairman of the ACM/IEEE Eckert-Mauchly Award Committee. The Eckert-Mauchly Award is the highest honor that can be bestowed on a member of the computer architecture community. It is jointly presented by the ACM and IEEE, the two major societies of computer professionals. It is extremely unusual to have one as young as Professor Hwu chair that committee. It is just one indication of the respect in which he is held. He was a general chairman of the 1994 IEEE/ACM International Symposium on Computer Architecture. This is the flagship conference of the computer architecture community. Again, it is very unusual for someone as young as Professor Hwu to chair that conference. Another indication of the respect in which he is held. A quick check of his curriculum vitae will show many additional conferences where he has assumed a leadership role. His service to the professional community is truly extraordinary.

Finally, I would like to note that Professor Hwu is an outstanding role model for his students. He is a caring human being, devoted husband and father (Amanda 3, Brian, a little less than a year), who regularly invites students to his home to interact with him and his family in a less intimidating environment. Although often overlooked, I think this aspect of the man also contributes to his being the Outstanding Young Engineering Educator that he is.

I strongly endorse this nomination, and recommend Professor Hwu for your consideration.

Alfred V. Cho, Director, Semiconductor Research at Bell Labs, Murry Hill, NJ writes, "Professor Hwu is probably the most conscientious and most effective advisor I have seen in the last twenty years. Hwu has also made significant fundamental contributions to the field of instruction-level parallel processing, a critical technology for the current and coming generations of high performance microprocessors. His work has led to a revolution in both the architecture and the compiler technology of high performance microprocessors. He is unquestionably one of a few recognized leaders in the field.

From 1983 to 1987, Hwu worked on the High Performance Substrate (HPS) model of microprocessor design. The HPS model entails superscalar issue, dynamic scheduling, branch prediction, speculative execution, post-decode caching, and in-order retirement. He pioneered the idea of sustaining a wide, steady flow of instructions through the processor in spite of program hazards and sequentiality. His work provided a coherent architecture, critical experimental data, and important insight for the HPS model. When Hwu first introduced his work at major computer architecture conferences in 1986, many prominent researchers were skeptical about the feasibility of the idea, citing technology limitations at the time. However, his deep conviction and tireless effort not only confirmed the validity but also demonstrated the prowess of his idea.

Through numerous publications and consulting activities, his work has been widely accepted by the microprocessor industry. Virtually all high-end micro-processors today are designed using this model as their master plan. Examples include Intel P6, AMD K5, Nexgen 586, Cyrix M1, HP PA-RISC 8000, IBM PowerPC 604, and MIPS R10000.

In 1988, when the microprocessor industry just started to embrace the HPS model, Hwu began to think ahead again into the long term future of microprocessors. The rapid increase in hardware execution resources has created pressing needs for instruction-level parallelizing compilers. However, the failure of major commercial efforts in the area discouraged most academic and industry organizations from venturing into the area. Many well-known researchers published papers based on output code generated by the then main stream compilers and made very pessimistic projections on the available instruction-level parallelism to future microprocessors. If not addressed, this shortfall in compiler technology would seriously limit the long term growth of microprocessor performance. Hwu assumed leadership in this area by constructing a revolutionary compiler software called IMPACT.

The IMPACT project has shown through engineering prototypes that compilers can generate efficient code with far more parallelism than most researchers and engineers previously envisioned. He has published, with his students, seminal papers on the superblock and hyperblock structures. The idea is to enable the compiler to parallelize code across complex program control structures via a clever combination of code replication and code predication. When engineered along with aggressive function inlining and memory dependence analysis, parallelization algorithms based on superblocks and hyperblocks generate a large amount of parallelism in the output code while keeping efficiency under control. His work on superblock and hyperblock parallelization has become the technology base of new compilers in major companies including SUN Microsystems, Intel, Hewlett-Packard, NCR, and Advanced Micro Devices. All have licensed IMPACT for technology transfer. Hwu's research group has become a premier source of advanced compiler technology for the U.S. microprocessor industry. He is currently working on new innovations in compiler parallelization algorithms that can potentially improve the performance of microprocessors by another order of magnitude.

Hwu's achievement in education, with his exceptional inspiration of students through research activities, uniquely qualifies him for the prestigious Eta Kappa Nu Award. Very few researchers in history have made so much impact so early in their career. He continues to provide towering leadership in the field through the introduction of innovative research and technology transfer. For his work on the instruction-level parallel processing technology, Hwu won the prestigious Eta Kappa Nu Outstanding Young Electrical Engineer Award for 1993 by the National Jury of Award. He was also recognized by the 1994 Senior Xerox Award for Faculty Research for excellence in engineering research during the past five academic years. For distinction as a member of the faculty of the University of Illinois, he received the prestigious 1994 University Scholars Award of the University of Illinois.

Professor Hwu, through his many contributions in the classroom, is more than deserving of this award, and I am grateful for this opportunity to share my thoughts on this gifted teacher.

Without a doubt, Wen-mei Hwu is an effective teacher because of his energy and enthusiasm. There are, of course, many teachers who are energetic and enthusiastic, but Professor Hwu's brand of enthusiasm is unique because of its consistency. Students who are privileged enough to have Wen-mei Hwu as a teacher invariably gain an appreciation for the field of computer engineering, particularly in computer architecture, that extends far beyond the last exam in the course.

Almost every student I know, who has been in one of his classes, has seriously considered graduate school, sometimes solely on the strength of Dr. Hwu's teaching ability.

If we consider the role of an educator to be that of inspiring in his students a desire to continue learning, then Wen-mei Hwu is one of the rare individuals who has done just that.

His commitment to students extends outside the classroom. Wen-mei Hwu has made an extensive effort to counsel students, even in the role of informal advisor, whenever he is in his office. Because of his availability and willingness to listen, Professor Hwu has gained a reputation as an outstanding advisor that is well known amongst the almost 2,000 undergraduate and graduate students in the department. Particularly at a large school, that kind of willingness to provide personal attention is not only refreshing, but vital to the educational process.

A couple of years ago, I was able to see firsthand how committed to undergraduate education Wen-mei Hwu is. As president of the student chapter of

IEEE, I was in charge of finding a speaker for the biannual Undergraduate Advising Fair put on by the department of electrical and computer engineering. After sending e-mail to Professor Hwu, I learned that he was out of town on sabbatical. But despite having a very busy schedule and being two thousand miles away, Professor Hwu took the time to fly back to campus and give an energetic presentation to the student body. His enthusiasm was, of course, contagious, and it once again demonstrated that Wen-mei Hwu is very committed to providing an outstanding educational experience for students here at the University of Illinois.

But perhaps what most sets Wen-mei Hwu apart from other teachers is that he leverages off of a wealth of experience when he teaches. There are many teachers who are excellent at presenting course material in an interesting fashion. What Wen-mei Hwu brings to the table, so to speak, is a unique perspective that is at once academically rigorous and yet also grounded in the reality of today's computer industry. Drawing from both his extensive and impressive research work, and from his experiences with industry leaders, his students get the benefit of understanding the pragmatic considerations of the field, without losing an appreciation for the science and theory behind computer engineering. At a time when pure research is being devalued in favor of "practical" research that "produces results," Professor Hwu affords his students an astonishingly complete look at both sides. Very few students ever get such a balanced exposure to the field of computer engineering, a point that I cannot stress enough.

As one of his former students, I also was considering graduate school because of my experiences in his class. In the end, however, I chose to join a startup company in the Silicon Valley. Chromatic Research is applying some of the most advanced architectural techniques towards multimedia processing, and is making a significant impact in the marketplace. Working for a startup company immediately following graduation is almost impossible. The people in this company are its most valuable asset, and thus they are incredibly selective in their hiring process. Without the benefit of learning from Professor Wen-mei Hwu, I would not have been the first new college graduate hired by this company to work on hardware.

I hope that you enjoy reading this and other letters about Wen-mei Hwu. I have especially enjoyed this opportunity to give my opinions about Him. Speaking for every other current and former computer engineering student, the University of Illinois is very lucky to have Wen-mei Hwu on its faculty.

It is my belief that Wen-mei Hwu is an extraordinary teacher and that my following testimony will illustrate his merit for such a distinguished award.

To begin, I have several different interactions with Prof. Hwu. First, I have been the teaching assistant for the Computer Architecture course (ECE312) at the University of Illinois under his instruction. In this time, I've observed many of his qualities and characteristics as being that of an outstanding teacher. These include insight, motivation, and discipline. However, the two most important aspects of his teaching are that he cares about reaching all students and insuring that his students achieve complete understanding. As an illustration, I remember one occasion when the course was covering some particularly difficult material--virtual memory organization. Prof. Hwu invited all the students to visit his office regardless of office hours. Actually, I have always seen Prof. Hwu encourage students to approach him. Needless to say, that day he had students pouring into his office, all of whom benefited from his individual attention. In academic environments it is difficult to balance the responsibilities of teaching and the demands of research; nevertheless, such actions by Prof. Hwu illustrate his devotion and dedication to students.

As a teaching assistant I've also observed that Prof. Hwu organizes his course in a manner similar to the true aspects of engineering. For example, the course consists of open ended designs which require written proposals and project demonstrations. By using this approach, Prof. Hwu is able to inspire students to create their own ideas and effectively communicate those ideas in an engineering format.

For all of these reasons, my own development as a teacher was greatly advanced by working with Prof. Hwu. In fact, it is important to note that I have received the University of Illinois' Olsen Teaching Award and was nominated for the Luckman Outstanding Teaching Award. Accordingly, I attribute my selection for these awards directly to my matching of Prof. Hwu's style of teaching.

In addition to working with Prof. Hwu as a

teaching assistant, I have also benefited from taking several of his graduate level courses. Without question, these courses have been the hardest and most enlightening aspects of my study in the Computer Engineering field. Not only does he provide the necessary history and background of past engineering concepts, but also provides analysis of future concepts currently affecting industry research. I believe that the contributions of Prof. Hwu's research help facilitate the most advanced engineering courses in the country. As a matter of fact, my professional work experience with the Hewlett-Packard and Intel Corporations has originated from my successful completion of Prof. Hwu's Advanced Computer Architecture course (ECE411).

Finally, I also worked as a research assistant for Wen-mei Hwu while pursuing my Ph.D. As the complexity of our software project grew, there existed great difficulty in introducing new members into research roles. In order to resolve these problems, Prof. Hwu organized software documentation, mentoring, and weekly seminars. Such actions illustrate Prof. Hwu's understanding of the forums for learning, not simply of teaching.

In short, I hope my experiences have given you some insight into the contributions which Prof. Wen-mei Hwu has made an outstanding teacher.

There is nothing worse than a feeling of having no direction in one's life. That was the feeling I had after the end of my Junior year in the ECE department of UIUC. By then I had taken many classes in hardware and software design, as well as networks, but to a question "So, what exactly are you going to do when you graduate?" I had no answer. Then I took ECE 312 with Professor Hwu. I was warned that the class would be hard and assignments would be complicated. But Professor Hwu turned this class into the best class I have ever had.

Professor Hwu has a unique ability to get students involved and interested in the class material, which was computer architecture in this case. He does this by bringing in examples and anecdotes from his extensive industry experience, telling jokes, and encouraging active class participation.

Then, once the class becomes ready to learn, Professor Hwu displays his most exciting quality, the skill to present a complicated material in a well organized, complete and easily comprehensible fashion. Throughout the class Professor Hwu was able to transmit the wealth of his knowledge and the

love of the subject on to the students. He also showed a lot of personal interest in our class and its overall engineering degree progress by having personal meetings with each student.

Dr. Hwu was one of the best teachers I had in my undergraduate career; he was also the most influential. Because of him, I am now in the 2nd semester of graduate school, working in the area of Computer architecture. I wholeheartedly recommend him for this award.

I feel that Professor Hwu has been one of the best professors I have had during the course of my undergraduate career at the University of Illinois. He was my instructor for ECE312, the undergraduate computer architecture design course which is considered by many to be the core course for the computer engineering program. His dynamic personality makes the course more enjoyable, and the experience he brings to the classroom allows him to aid the students in understanding what computer engineering is all about.

Hwu's attention to creating a big picture from which computer engineering students, can view the material he is teaching is perhaps one of his best traits. In many courses in the curriculum, I have often asked myself where the exercise I am working on fits into what real world engineers do. He always provides that explanation. That motivated me a great deal to want to learn the material, and it helped tie the course into other courses in the curriculum.

Dr. Hwu's presentation and organization of the course material is also extremely effective. He provided lecture notes for all the lectures which concisely reviewed all of the key concepts and illustrated them thoroughly with worked problems. Not many instructors would take the time to prepare such a good notes, greatly enhancing my ability to learn the material.

Professor Hwu has a genuine concern for the students. He wants to get to know each student as much as possible, even if that may be only for the fifteen minute session he asks each student to schedule with him at one point during the semester. He welcomes students to come and speak with him on any topic that they feel he could help them with.

At a large University such as ours, where too many professors forget that research isn't the only reason that they are here, Dr. Hwu stands as a reminder to everyone that teaching is as important as publishing.

IN SEARCH OF DIAMONDS©

by

Jim Watson

Success is in the mind of the beholder. It is measured by many yardsticks. Personal goals are unique and different for each individual. However, most of us have the desire to succeed and to achieve life long dreams.

Unfortunately, many goals are not accomplished. Many dreams are never realized. Life can be a struggle and very discouraging unless we discover the secret of success. Achieving success is not an easy task but the chances of finding success are increased by becoming aware of basic fundamentals of life and our profession. Engineers and other technical professions can easily be sidetracked as they initiate their careers.

As engineering students, we work hard to prepare for our career. This includes hundreds of hours of classroom and laboratory experiences. In spite of new technical tools, obtaining that diploma requires dedication, commitment, long hours of hard work, and perseverance. There is great joy when that day arrives and our prayers are answered. We made it. We have that long awaited diploma. We have completed our education and can finally rest from our labors. With this piece of paper we are sure we can open many doors.

As we leave the familiar setting of the campus and friends, our goals change. We are anxious to launch our career and to apply our wonderful knowledge of technology. It is time to make our mark on the world. Along with grand designs of changing the world with our technology, we also are anxious to start making some money. After all, we have been investing a great deal of our time and resources to reach this stage of life, and now it's our turn to enjoy some rewards. We can visualize building that little dream cottage and all it represents.

But, as we start the process of establishing our career, we are surprised with some new questions. How can we find that perfect employer? Where should we locate? What type of job should we consider? Do we place ads in the paper, send out several hundred copies of our resume, call human resource departments, or just wait until someone knocks on our door? How can we be successful in launching this career? As we consider these many questions, an ancient Persian legend may shed some light on possible answers. Many years ago, it was reported that a young man by the name of Ali Hafia inherited a farm. It was good land, but Ali had to work hard.

After a few years, a Buddhist priest passed by Ali's farm and stopped to watch him working in the fields. The priest called Ali aside and discussed his farm work. In this conversation, the priest shared a vision that he had received. Somewhere in the world there existed a field of diamonds. Whoever found that field would be rich beyond imagination. That person would automatically have anything they desired without hard work. Unfortunately, the priest's vision did not reveal the location of this field of diamonds.

The priest went on his way but Ali continued to think about their conversation. The more he thought about the rewards of finding that field of diamonds, the more dissatisfied he became with the need to work so hard. Even though his little farm was providing a reasonable living, he began to visualize how nice it would be to enjoy being the richest man in the world.

Ali did more than just think about a field of diamonds. He made a major decision in his life. Ali sold his farm and started searching for that field of diamonds. His search took him many miles away from his farm, family, and friends. Ali spent the balance of his life looking for that field of diamonds. When he was an old man, he died. He had spent all of his life and all his resources looking for the field of diamonds, but Ali never found it.

A few months after Ali died, someone found the field of diamonds. The irony of this legend is that the field of diamonds was located on the farm that Ali owned before he started his search for diamonds. While Ali had been looking somewhere else, he already possessed his treasure when he owned the farm. But he never knew it. Instead of searching the world, Ali should have looked at his feet, at what he already possessed.

What does this Persian legend have to do with the engineering profession? The secret of achieving success in the engineering profession is to discover and effectively use resources we already possess. There is a paradox associated with the engineering profession. Although engineering is based on technology, to be successful, engineers must also have effective non-technical skills. Most engineers possess many of these non-technical skills but are not aware of the need to strengthen and use what they already have.

In our never ending search for more technical information and knowledge, we can easily neglect our non-technical skills. As a result, we often see engineers looking and acting very uncomfortable in a social setting. Unless social skills are developed and used, social environments can become a dreaded event. In a social setting, some engineers hide in their technical shell. Regardless of non-technical conversations taking place around them, they revert to the only thing in which they find comfort--technical topics. As they expound on the virtues of their technical knowledge, this opens a real can of worms and only adds to their dilemma. Their image heads for the basement, and their influence becomes non-existent.

As we enter the 21st century, engineers and the engineering profession have the responsibility to seek and obtain the confidence of those around us. Although this includes other engineers and technical co-workers, it is becoming increasingly more important that non-technical people understand the contributions which engineers can and should make to their world to cope with many, fast changing challenges for mankind.

Lack of social and interpersonal skills places roadblocks in the path of engineers. As American industries downsize, engineers are often considered a technical commodity. Jobs may be lost because we have not demonstrated many other skills. This has negative impacts on engineers and the engineering profession and is not in the best interest of our fellow travelers on this space ship earth.

So, part of the secret of success is to first understand the need to make a positive change in our image, and then for each engineer to do something about it. This is not something engineering societies or employers can accomplish for us. The answer lies in our own back yard.

Start by looking at what you already possess. When you look at your "farm," you may initially see earth and stones, but these are really opportunities. We are surrounded by a multitude of people.

Our field of diamonds can be discovered by building effective networks with people living and working around us. Networking provides many sources of information and improves our technical skills. Through networking, we can demonstrate our abilities and improve our image. This can remove many roadblocks of misunderstanding in the non-technical world around us.

So where do we start? If you are an engineering student, there are many opportunities to practice networking in a low-risk environment. Classrooms offer opportunities to network with instructors and students. Study textbooks and be prepared to ask questions in class. Build relationships with instructors. Make sure they know your name. Instructors not only provide important information about your course, they also are excellent references when searching for summer work,

entry to graduate school, and that important first job.

Establish study groups. Work homework problems together. Share approaches to finding solutions. The synergy of group activities provides opportunity to solve many more problems. Don't limit problem solutions to just those assigned by the instructor. Relate principles found in homework problems to engineering applications. Other advantages of study groups include the development and application of interpersonal skills. Future work assignments often include involvement in project teams, committees, and focus groups.

Laboratory teams offer excellent opportunities to practice leadership and interpersonal skills. Learn to understand the ideas of others. Respect their approach to problem solutions. Learn to compromise and to work as a member of a successful team.

Develop networks in classrooms and laboratories and stones of opportunity begin to look a little more like diamonds. But networking is not limited to classrooms, laboratories or study groups. Professional organizations such as ACM, ASCE, ASME, CSA, IEEE, NSBE, SHPE, SAE, SWE and many others provide technical information and offer many opportunities to meet and become acquainted with a variety of students and professional engineers.

The best method to develop networks in professional organizations is to be active. Volunteer to participate in a variety of responsibilities. Practice communication skills by writing letters and speaking to small audiences. Arrange for programs and introduce speakers. Assume leadership roles and learn to interact effectively with many different personality types.

Attend organization meetings for practicing engineers near the university. Become involved in regional conferences. Prepare and deliver papers or enter design contests sponsored by professional organizations. Build a record of contacts within the university and with practicing engineers and other members of corporations.

Active involvement in professional and social organizations develops many skills which will be useful in future career situations. Experiences gained in this process continue to polish your skills and image and result in stones of opportunity looking more like diamonds.

The next networking activity is one of the most important. Build associations with upper classmates while they are in school. Then, continue contacts with graduates after they start their careers. Use the Alumni Office to help locate graduates during their first few years after leaving school. Call or send letters to initiate or maintain contacts.

Some activities which can assist networking include requesting graduates to provide programs for professional organizations on campus. If graduates are not members of your national professional organization, encourage them to join. Work with the regional officers to initiate projects involving these networks. For example, by working with local or regional organizations, students can recruit new members from practicing engineers and may receive financial assistance from the organization to support the project. It also builds strong networks with local and regional groups.

Request graduates to organize and implement field trips for student professional organizations. Visit potential employers and observe future career work situations. Ask questions, build a list of contacts, and send thank you letters.

Consider recent graduates as a resource to review your resume. They can give an industry perspective and provide ideas for how to present resume information.

In some cases, they might be willing to give mock interviews. These are valuable opportunities for you to build confidence and interviewing skills. They also provide direction on how to be better prepared for interviews and how to handle difficult questions.

Explore "Engineer for a Day" opportunities with recent graduates where you spend up to a day at their work station. This provides information about early career activities and usually results in networking with many employees of the corporation.

Obtain business cards with your name, telephone number, E-Mail address, and school and home addresses. Exchange business cards during industry visits. Practice communication skills during the experience at the job site and by sending thank you letters as a follow-up activity.

When initiating your job search, send your resume and cover letter to network contacts which you have developed within corporations and ask those engineers to give your resume to engineering department managers. This is many times more effective than mailing your resume to the Human Resources Department. Call your network contacts before sending your resume and discuss your interest in their company. Request your network contacts to suggest opportunities in other corporations if they are not presently hiring.

If you are successful in building networks of engineers who are alumni and are working in industries in which you are interested, your field of diamonds will prove to be valuable. The secret of success does not stop with networking during your university experience. When you graduate, continue to see your world as a larger opportunity for increasing your networks.

Although we may not often think about it, as engineers we are really in the people business. Everything we do affects people. People have an impact on all that we do. If we realize the importance of this, we will see the value of time invested in expanding our networks.

Successful networking requires strong communication skills. It is important to review your own skills and determine how you measure up. How comfortable are you in meeting new people? Can you expand your networks easily? This starts with one-on-one communication.

First impressions are established during the first 12 seconds after meeting someone for the first time. One of the best methods of improving those first impressions is to smile. It takes 39 muscles to frown and only 13 to smile. Why work so hard? A smile breaks the ice and is very effective in initiating positive impressions.

One of the best methods of gaining confidence in this type of setting is to initiate contacts. Use a firm handshake to demonstrate confidence. Look the other person in the eyes and focus on their name. Use their name once or twice during this initial conversation.

We have two ears and only one mouth. Perhaps we can learn from this. Although we often are anxious to let others know how much knowledge we possess, good interpersonal skills include listening more than talking. In addition to providing a better image, active listening results in our learning more than when we are talking.

By listening first, it is much easier to fit in when we are talking. Learn to contribute to the conversations of others, and not to always change the subject to a technical one. If sports or a movie are being discussed, talk about those topics. Sometimes it is appropriate to include technical subjects, but they should fit into the overall conversation.

Effective interpersonal communication skills result in high quality diamonds of opportunity and success. Continue to be an active member of your professional organizations. Expand your activities to regional and national levels. This will result in an ever expanding network and build opportunities for future career possibilities.

As an alumni, you can offer network activities to students which you enjoyed as a student. Professional organizations often provide activities which will involve students. By maintaining contacts with your university, you will be helping students and also keeping current with changes in your profession.

Another area for networking is formal meetings; however, most people are not interested in meetings. This attitude is usually a result of attending meetings which are ineffective and boring. It is easy to become apathetic about meetings if they are not well planned and conducted.

The first question to ask when considering calling a meeting is, "Why are we holding this meeting?" The best way to answer this question is to develop an agenda. As an agenda is considered, determine if the same results could be accomplished with a memo, a voice mail group call, a personal telephone call, e-mail, project report or other means of communication without a formal meeting.

If the development of an agenda indicates a meeting is the most effective method of conducting business, then a few basic rules will improve your image as a meeting leader. Invite only people who will contribute to the meeting or are interested in the results. Try to minimize levels of management for more effective time use. Publish the agenda and time schedule, and then stick to both during the meeting.

Meetings may include formal presentations. One of the best methods of making a positive impact on a large audience is to become an effective public speaker and present your ideas and project results in an interesting manner. Many careers are advanced in this type of activity. However, poor presentations can damage careers, lead to negative impressions, and destroy networking results.

For more formal conferences and workshops, networking starts with planning committees. Assignments are distributed to many,

and the use of effective leadership and interpersonal skills will result in greater success.

Good communication with speakers is especially important before the meeting. Make sure there is an understanding of allocated time, audience make-up and expected message topic. Remember, the meeting is for the benefit of the audience. Speakers will be most effective when they relate to the audience.

Misuse of time allocations by speakers is the number one destroyer of meetings. Speakers need to know you expect them to stay within their allotted time and that you will stop their presentation if it is too long. Although there is a potential of hurting a speaker's feelings if they are unprofessional in time use, your audience will applaud your efforts of not wasting their time.

The ability to effectively plan and conduct meetings and conferences provides valuable settings for diamonds. This skill also enhances positive images and careers and supports a continuation of effective networking activities.

So what is the secret of success as a professional engineer? Is it keeping current with technology? Sure. Is it adding non-technical skills such as interpersonal and group communications and networking? Absolutely.

The secret of success is joining these two important skill areas into a winning duo. A balanced approach of knowing as much about your technical field as possible over a life-long career and building networks by applying effective interpersonal and many other communication skills will maximize career success.

It will also be one additional benefit. At the end of your career, you can sit back and reflect on the fact that you contributed your best to your profession. You developed positive impressions within your circle of friends and associates. You provided for your personal and family needs, and you were able to enjoy the fruits of your labor. This, to me, is an excellent example of success.

Episode at Olney

by
George W. Swenson, Jr.

The American Astronomical Society was to hold its Christmas, 1971 meeting in Puerto Rico, and Janice and I decided to go. The idea was to fly ourselves from Champaign, Illinois to Miami, and then to go by airline across the Caribbean to San Juan. We rented a Beechcraft Bonanza for the first leg. This was something of an extravagance for us, as the Bonanza is a "Cadillac" of private planes, and we were looking forward to this little taste of luxury.

The weather predictions were encouraging as we set out for the South, but it was winter, so I monitored the broadcast reports continuously as we proceeded. Though the airplane was well equipped for instrument flight, it had no de-icing equipment, so it would not be possible to fly through the supercooled clouds which are all too common in winter. As we approached Evansville, Indiana we heard ominous news: low ceilings were developing to the southeast of us, with previously unexpected icing conditions. It looked as though we might have to change plans, so we made a precautionary landing at Evansville to check our options. The news wasn't good. The Federal Aviation Agency informed us that serious icing conditions now existed across Tennessee, Alabama and Georgia, and good sense dictated that we abort the further flight. Evansville weather was still suitable for visual flight and we expected it to remain so for the trip back to Champaign to see if we could get timely airline passage to Miami. We headed back.

Once again, low clouds intervened, this time so suddenly that I had to radio Air Traffic Control (ATC) to authorize an instrument approach to Olney, about 65 miles northwest of Evansville. We landed in bad weather with low clouds and minimum visibility. This was a typical country airport, with a grass runway, a combined office

and pilots' lounge where local aviation buffs gathered to swap hangar talk, and a "unicom" radio transceiver for communicating with local air traffic. We phoned the airline to reserve seats from Champaign to Miami, and filed an instrument flight plan to Champaign, then chatted with the small group of men in the lounge while waiting for our clearance to come through, from ATC.

Suddenly there was a panicky voice on the unicom. A pilot said he thought he was in the Olney vicinity, but was above the clouds and unsure of his position relative to the airport. The airport attendant told us that this was a student pilot, not qualified to fly in instrument conditions. He tried calmly to coach the pilot to tune his navigation radio to obtain bearings on the two nearest FAA navigation transmitters. While waiting for the outcome, he told us that the student pilot was a funeral director who had rented the plane to transport a corpse. The situation was tense, and the attendant and the pilot continued to talk on the radio as we listened anxiously. Our clearance came through, and we went to our plane and taxied to the departure end of the runway, but we couldn't take off while there was an unauthorized plan blundering around in the nearby clouds. We listened intently to the radio, hoping the situation would be resolved before our clearance expired. Finally, the student's voice, now sounding a note of relief, called out "I see the cemetery!". Apparently that was a landmark he knew, which gave him the necessary guidance to the airport. Apparently the airport attendant was relieved, too. He shouted into his microphone "Drop the coffin and come on in!"

The errant plane landed a couple minutes later, and we took off for a routine flight back to Champaign.

IN MEMORIAM

EDITH C. KOERNER MEMORIAL TRIBUTE

Edith Cartwright Koerner passed away in the family home on 1 December 1997. A memorial service was held on 8 December. The cause of death is believed to have been an aortal aneurysm, so it was blessedly quick.

Edie was the widow of Carl T. Koerner, and the founder of the Eta Kappa Nu - Carl T. Koerner Memorial Trust, in the honor of Carl, who devoted much of his adult life to the betterment of Eta Kappa Nu. Carl was deeply involved with Eta Kappa Nu, participating with the New York, San Francisco, and Los Angeles Alumni Chapters.

He was President of the LA Alumni Chapter in 1950, a member of the National Advisory Board 1953-55, National VP 1956, National President 1957, and was awarded the 5th Eta Kappa Nu Distinguished Service award in 1976. He became affectionately known as "Mr. Eta Kappa Nu of the West". Carl was also a member of Tau Beta Pi.

Edie and Carl met in the early 1930s following Carl's graduation, with honors, from Cornell University in 1930 (where he was elected to Eta Kappa Nu in 1929). Carl's first job, as a shipboard radio operator, was driven by his love for the sea.

It continued summers right into the Depression exposing young Koerner to the West Coast of the United States, and to the beautiful Edith Ann Cartwright, a student at the University of Washington. The love bug hit hard when Carl was in his mid-twenties. Carl Koerner and Edith Cartwright became Mr. and Mrs. Carl T. Koerner in 1936, following Edie's graduation from the University of Washington, her home state.

Edie was an exceptional school teacher. She taught at the John Muir High School in Pasadena

for many years, and retired from there a few years ago. She respected Carl's dedication to Eta Kappa Nu, and supported him in his efforts with joy and vigor. They freely offered their spacious, beautiful, and friendly California home in Glendale, California, to Eta Kappa Nu activities--including hosting many of the meetings of the Outstanding Electrical Engineering Student Award development committee meetings from 1962 to 1965.

Following Carl's death in 1978, Edie, in honor of his love for Eta Kappa Nu and the students, worked with then Eta Kappa Nu Executive Secretary Paul Hudson to establish the Carl T. Koerner Memorial Trust, "so that there would always be a stipend for the winner of the Alton B. Zerby Outstanding Electrical Engineering Student Award".

The Trust, with significant funding from Edie, their children, Carl's brother and sister, and several Eta Kappa Nu friends who held great respect for Carl, officially began operation in August 1983. The Carl T. Koerner and Alton B. Zerby Trusts provide 100% of the funding for the operation of the Outstanding Electrical Engineering Student Award Program, which bears their names.

Because of her commitment, her love, and her contributions to our association, Edie was named by the Board of Directors as a "Distinguished Associate" of Eta Kappa Nu in July 1994.

Edie Koerner was a steadfast Eta Kappa Nu supporter right up to her untimely departure. She very effectively carried on in Carl's footsteps providing financial and moral support to HKN. She had a great love and concern for HKN.

Edie and Carl are survived by their two children. Their daughter Margaret Koerner Goodrich, is a graduate from the University of California, and a very competent investor. Their son Bill Koerner, as might be expected, is an engineering graduate from Stanford.

Margaret has declared a vital personal interest in carrying on the Koerner family tradition and name by continuing the family's interest, contribution, love, and concern for Eta Kappa Nu. While we greatly miss Edie and Carl, we are most fortunate that Edie has asked her extremely capable daughter Margaret to carry on for the family!!

One door closes, another door opens!

Former Motorola Chief William Weisz Dies at age 70

One of Motorola Inc.'s early engineering whiz kids, William "Bill" Weisz, rose to become president by age 43 and helped lead the company through its fast-growing transitional years from a television and radio company to a cellular and communications giant.

The former chairman and chief executive died Dec. 17, 1997 at the age of 70 at his home in the Phoenix area of an apparent heart attack.

A veteran of the U.S. Navy, a graduate of the Massachusetts Institute of Technology, and a member of HKN's Beta Theta Chapter, the 22-year-old Weisz entered the company in 1948 as a junior development engineer. Then based in Chicago, Motorola boasted sales of $58 million.

By the time he retired from the board of directors earlier this year, Schaumburg-based Motorola had $28 billion in sales and had emerged as the premier suburban technology company, providing thousands of jobs at plants in Cook, Lake and McHenry counties.

Robert W. Galvin, chairman of Motorola's executive committee and son of founder Paul Galvin, said Thursday fond memories of the good times he spent with his long-time friend and business partner softened the sad news of Weisz's death.

Galvin and Weisz shared Motorola's executive office for about 20 years.

"That was really a rare privilege for the two of us to work together for that long," Galvin said. "That was a great partnership and I greatly loved the man."

Known as a hard-driving, cutting-edge administrator, Weisz rose quickly to the president's office in 1970. He was at the epicenter of key decisions made to pull Motorola out of the television business in

1974 in the face of intense Japanese competition.

When Galvin chose Weisz as his successor as chief executive officer in 1986, he said the objective was to make way for "the next generation of corporate leadership."

Weisz was made a member of the board of directors in 1988 and became chairman of the board when his successor as CEO, George Fisher, left for Eastman Kodak Co. in 1993.

Weisz received numerous awards including the Electronics Industries Association's highest honor, the Medal of Honor, in 1981.

"Bill had a remarkable knowledge and understanding of technology, combined with an ability to communicate the possibilities of that technology to customers and decision-makers throughout the world," Gary L. Tooker, chairman of the board at Motorola, said in a prepared statement. "His efforts to improve use of the radio frequency spectrum helped to set the stage for global wireless communications."

He also held several government advisory positions. He became a fellow of the Institute of Electrical and Electronics Engineers. This year, he received the 1997 IEEE Ernst Weber Engineering Leadership Recognition and became a fellow of the International Engineering Consortium.

Weisz was an advisor to the defense Policy Advisory committee on Trade, to the Secretary of Defense and to the U.S. Trade Representative.

He was also a longtime member of the Harris Bankcorp Inc. board of directors.

Among the civic organizations he supported were the Junior Chamber of Commerce, Junior Achievement and the Boy Scouts of America.

Weisz would have celebrated his 50th wedding anniversary with wife Barbara on Dec. 25, 1997. He is survived by three children and four grandchildren.

Nominations Invited for the Eighth Vladimir Karapetoff Eminent Members' Award

Dr. Vladimir Karapetoff

Nominations for the eighth Vladimir Karapetoff Eminent Members' Award are now being solicited. Nomination forms and guidelines may be obtained from Donald Christiansen, Eminent Member Committee Chairman, 434 West Main Street, Huntington, N.Y. 11743.

In 1991, the Eta Kappa Nu Board of Directors announced the establishment of an award in honor of Vladimir Karapetoff, an Eminent Member of HKN and Fellow of IEEE, who died in 1948. The first award was given on April 27, 1992.

The award, the Eta Kappa Nu Vladimir Karapetoff Eminent Members' Award, is made annually to an electrical engineering practitioner who has distinguished him/herself through an invention, a development, or a discovery in the field of electrotechnology. The fund to support the award was initiated through a bequest from Dr. Karapetoff's wife, R. M. Karapetoff Cobb, herself a distinguished chemical engineer.

A monetary honorarium is provided to the recipient (or shared by the recipients) of the award.

Factors that will be weighed by the jury will include the impact and scope of applicability of the invention, development, or discovery; its impact on the public welfare and standard of living and/or global stability; and the effective lifetime of its impact.

Dr. Karapetoff was born in St. Petersburg, Russia, January 8, 1876.

His father was an engineer and his mother a student at a military medical school.

Dr. Karapetoff emigrated to the United States in 1902, and became a naturalized citizen in 1909.

In 1904 he joined the engineering faculty of Cornell University as an assistant professor. In 1908 he was made a full professor and continued in that capacity until he retired from active teaching in 1939.

In an account of Dr. Karapetoff's career, his Cornell University colleagues R. F. Chamberlain, N. A. Hurwitz, and Everett M. Strong, recalled his continuing dedication to Eta Kappa Nu. During World War II he was commissioned a Lt. Commander in the U. S. Navy. But beginning in 1942, Kary, as he was known to his associates, began to lose his sight in both eyes, and despite temporary relief through operations, he ultimately lost his sight and schooled himself in Braille and "talking books."

Even after his blindness he seldom missed the annual Eta Kappa Nu Award dinner in New York City, and would address them in "refreshingly original and lucid expositions" of his technical interests. Fellow HKN members viewed these occasions as sort of a "national Kary reunion." His handicap notwithstanding, his cheerfulness, determination, and ingenuity prevailed.

His colleagues remembered him as an accomplished musician on piano, violincello, and double bass. He toured the country giving recitals

and lectures on Wagner, Liszt, and other major composers, and developed a five-string cello on which violin music could be played. He received an honorary Doctor of Music degree from New York College of Music.

Professor Simpson Linke, writing in the Winter 1984-85 *Engineering Cornell Quarterly*, cited the following excerpt from Karapetoff's *Electrical Laboratory Notes*, published in 1906, as reflective of the flavor of EE studies in that era:

> In coming to the laboratory, bring with you a slide rule, an inch rule or tape, a speed counter, a screw driver and a pair of plyers [sic]. This will save you time and trouble of looking for them or borrowing them. Do not forget to have a pocket knife for skimming off wire; a bicycle wrench is also sometimes very handy to have.

Dr. Karapetoff was the author of several standard texts on electrical engineering that were widely used and revised through several editions, as well as other texts on electrical and magnetic currents, electrical testing, and engineering mathematics.

He was a member of AIEE, the Franklin Institute, the AAAS, the American Mathematical Society, the Mathematical Society of America, the American Physical Society, the U. S. Naval Institute, and the U. S. Naval Reserve Officers' Association.

Eminent Member Listing

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