# Newsletter

IEEE Professional Communication Society

New PCS AdCom Members Elected

PCS Administrative Committee members for terms beginning in 1987 were elected at the annual Conference meeting. The elected members are Ron Blicq, John Moffett, Deborah Flaherty, Leon Pickus, Daniel Rosich, and Lois Moore.

Ron Blicq has been a member of PCS since 1958, has served on the Administrative Committee since 1974, was chairman of the Society's Education Committee from 1975-85, and currently is chairman of the New Communication Technology Committee. He developed and presented PCS's workshops and the IEEE correspondence course in Technical Communication and Report Writing from 1975 to 1985, has just completed writing the IEEE's new Independent Learning Program (ILP) "Communication Techniques for Engineers, Scientists, and Computer Specialists," and is author of four Prentice-Hall textbooks on technical and business communication. When

Inside
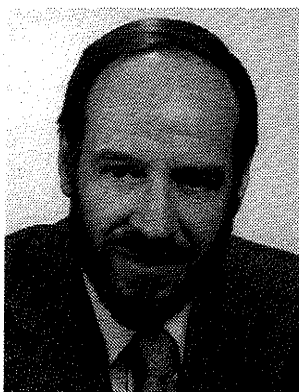
IPCC 86—A Success

One hundred eleven communicators attended the International Professional Communication Conference (IPCC 86) at the Adam's Mark hotel in Charlotte, NC during 22-24 October. The annual conference gave Society members, and others concerned with engineering communication, an opportunity to explore the new and novel in the field through a program planned around the theme, "Linking Technology and Users." This theme was especially timely, because as President Lois Moore put it, "our roles as communicators will continue to be impacted by changes in the world of automation."

The conference sessions ranged the gamut from acronyms to writing, with a total of 70 some papers presented plus workshops keyed toward solving the problems of today's engineering communicators. The best paper of the conference, as selected by the program committee, was entitled, "Smart Documentation Systems," by Dr. Mark P. Haselkorn of the University of Washington. This paper presents the application of expert systems to documentation issues.

The Conference's keynote speaker, Dr. Richard A. Moll, discussed product liability and technical documentation. His address stressed communication responsibility and was illustrated with examples of the legal pitfalls that can arise from inadequate engineering documentation.

An interesting technical exhibits session, on Thursday evening, 23 October, featured demonstrations of the latest hardware and software offered by America's leading companies in the communication field. This was followed by the annual awards banquet. This year's recipient of the Alfred N. Goldsmith Award, which honors those who have improved the quality of engineering education, was the Society's Vice President, Jim Hill.

The Charlotte conference provided an opportunity to renew friendships and to meet new friends in a con-

From the Editor . . .

More and more, engineers, scientists, and communicators are invited to give presentations in another country. Each company has its own set of guidelines for approving the release of technical information. In addition, the U.S. government has regulations concerning export control, and an important part of these regulations involves the dissemination of technical information abroad. These regulations must be considered should you intend to present, publish or transmit a technical paper outside of the United States or to any foreign nationals within this country.

As a general rule, exports of technical data may be made under a U.S. Department of Commerce "general" license. A "general" license is defined as one which permits export without the necessity of making an application to the U.S. Department of Commerce.

There are now two general licenses for the export of technical data. The general license GTDA authorizes the export to all destinations of (1) data that have been made generally available to the public in any form: (2) scientific or educational data not directly and significantly related to design and production; and (3) data contained in an application for the foreign filing of a patent, provided that the patent application has been filed abroad in an "earlier publication country." A second general license designated GTDR authorizes the export of "restricted" technical data not exportable under the provisions of the general license GTDA, subject to specific restrictions and assurances depending on the destination. Exports of some types of restricted technical data to Eastern bloc countries or the People's Republic of China are excepted from the provisions of general license GTDR and may require specific authorization from the U.S. Department of Commerce in the form of an individual validated license.

The rules for exporting technical data are complex. Should you have specific quesitions concerning these regulations, I suggest that you contact your manuscript clearance organization or the U.S. Department of Commerce.

☐

IPCC 86—A Success

genial, productive atmosphere. This was perhaps best summed up by Conference Chairman, Steve Doheny-Farina, who said, "While we had a tremendous program, the real heart of the conference was the camaraderie and the talk at meals and in the lobby among the attendees."

Next year's conference will be in the Sheraton Hotel in Winnipeg, Canada, during 14-16 October 1987. Ron Blicq and his committee are hard at work to ensure that Winnipeg will be a worthy successor to Charlotte. Don't miss it.

☐

IEEE Professional Communication Society

Officers

Lois Moore, **President**
James Hill, **Vice-president**
William Kehoe, **Treasurer**
Salvatore DeAmicis, **Secretary**

Staff

Deborah Flaherty, **Editor**
Christopher Parker, **Assistant Editor**

New PCS AdCom Members Elected

not doing things for PCS, Ron teaches in the Engineering Technology Division of Red River Community College, in Winnipeg, Canada.

John Moffett has been in the publications field for 32 years and is presently Supervisor of the Space Department Publications Section at The Johns Hopkins University Applied Physics Laboratory near Laurel, MD. He has been a member of the Professional Communication Society since 1984 and chairs the Society's Publicity committee. He also chairs the planning committee for the Society's 1990 conference, to be held in London, England.
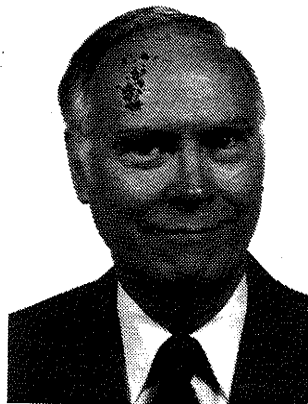
**Deborah L. Flaherty** is a product planner in AT&T Technology System's Electronic Components Division. She received a Bachelor of Arts degree, *cum laude*, in French and chemistry from Regis College in 1979, and a Master of Science degree in Technical Writing from Rensselaer Polytechnic Institute in 1980. Currently, Ms. Flaherty is working toward a Master of Business Administration in International Business/Marketing at New York University. She has been a member of PCS and IEEE since 1982. Ms. Flaherty is currently the PCS *Newsletter* editor and is the Chairman of the Editorial Advisory Committee. She is a recipient of an IEEE Centennial Key to the Future.

Leon C. Pickus has been a member of IEEE and PCS for 28 years (IRE and PGEWS) and is now a Senior Member of the Institute. He has been a member of the PCS AdCom for seven years and was Treasurer from 1983 to 1986. He also served on the Education Committee as a Technically-Write instructor and workshop lecturer for seven years. Leon is currently Director of PCS International Technical Activities and Conferences, and is PCS Meetings Committee Chairman.

Mr. Pickus graduated from Pratt Institute with a BEE in 1954. He received an Associate Arts degree in Business from Burlington Community College in 1976, and an MS (Technical and Science Communication) from Drexel University in 1986.
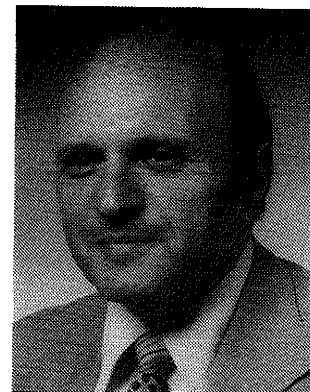
Leon is presently Unit Manager, Proposal Management, in RCA's Missile and Surface Radar Division where he has been employed for over 32 years in various engineering writing and management positions.

Dan Rosich is currently Professor of Computer Science at Pace University. He has taught previously at The City University of New York, the Graduate School of the University of Connecticut, and Hofstra University. He regularly serves as Visiting Professor at New York University and has also been Visiting Professor at ESLSCA, Paris VII. Dan has been a member of IEEE and PCS since 1967 and attained the senior member grade in 1978.

In 1987, Dan will chair the PCS Education Committee. He has previously served as PCS Secretary, Vice President, and President. He was general chairman of the 1981 IEEE Professional Communication Conference and has since served on the Conference Program Committee.

Within the IEEE, he serves on the Public Information Committee, the TAB Meetings Committee, the U.S. Technology Policy Conference Committee, and the joint USAB/TAB Committee on Communications and Information Policy. He currently chairs the Information Security Subcommittee of CCIP. From 1982 to 1985 he was the IEEE representative to the Council of Communication Societies and a member of its Board of Directors.

From 1962 to 1973 he worked in technical and managerial positions on large computer software projects in the areas of sensor-based systems and operating systems. His current interests center on information security and privacy protection problems and man/computer dialogues. He has written more than 30 papers on topics in information science and technical communication.

Dan is a graduate of The City University of New York (AB, AM) and New York Unversity (PhD). He holds the CDP and CSP designations from the Institute for Certification of Computer Professionals.

A Senior Member of the IEEE, Dan is also a Fellow of the College of Preceptors (London), a Senior Member of the Instrument Society of America, a Member of the Operations Research Society of America, and a member of the Association for Computing Machinery. He is also a member of two national honor societies.

Lois Moore's biography and photo are below.

□

Lois Moore Re-elected President

Lois K. Moore is a technical writer and editor, *McClure Center Magazine*, for The Johns Hopkins University Applied Physics Laboratory (JHU/APL). She has over a quarter century in the communications field, with extensive experience through previous employment at TransSonics, Inc.; Technical Operations, Inc.; RCA and IBM, the last 12 years having been at JHU/APL.

Ms. Moore, a Senior Member of the Society for Technical Communication, chaired the Writing and Editing Stem of the 1981 International Technical Communication Conference, Pittsburgh.

Ms. Moore is an active Senior Member of the Institute of Electrical and Electronics Engineers and has been re-elected to serve on the Administrative Committee as well as being re-elected President. She chaired both the 1982 (Boston) and 1983 (Atlanta) international conferences.

Three of her most recent responsibilities include serving as a member of the Communications Committee of the United States Activities Board and as a member of the Editorial Board of *Impact Magazine* and the Institute's *Professional Perspective*. She has published numerous articles on communications and computer-related topics and is co-editor of the 1985 book, *Marketing Technical Ideas and Products Successfully!* and the 1986 booklet, *How to Publish an Anthology.*

Ms. Moore received the 1984 IEEE PCS Alfred N. Goldsmith Award in recognition of service within PCS to improve the quality of engineering communication.

□

Jim Hill Re-Elected Vice President

Our re-elected Vice President, James W. Hill, received his Bachelor of Science degree in Management Engineering from Carnegie Tech in 1950, after which he accepted a position as Technical Writer with the Atomic Energy Division of the du Pont Company.

From 1950 to 1974, he worked in industry as Editing Supervisor for du Pont's Savannah River Laboratory; Technical Writing Supervisor for Lawrence Radiation Laboratory, Livermore; Supervisor of Engineering Administration for Wheelabrator-Frye, Inc.; and Publications Manager and Manager of Communications Services for the Westinghouse Advanced Reactors Division.

In 1974, he turned to teaching, and until 1981 taught Technical Writing in the English Department at The Pennsylvania State University, did research in Management Communications, and taught the written part of the communications component of Penn State's MBA program. During that period he also developed a consulting practice, becoming the Principal Member of Management Communications Consultants.

In 1981, he returned to industry to become the Senior Proposal Coordinator for HRB-Singer, Inc., an electronics intelligence firm in State College, PA, where he is presently employed.

Jim has been a PCS member for four years and a member of the AdCom for three years. He was Publications Chairman for the 1982 PCS Annual Conference, Technical Program Chairman for the 1983 Conference, and Conference Chairman for the 1985 Conference in Williamsburg. He was the PCS Awards Chairman from 1983 through 1985. He is the 1986 recipient of the Alfred N. Goldsmith Award.

His main professional interest is "Management Communications," and he compiled and edited a special issue of the PCS *Transactions* on the subject which was published in September 1985. He is also interested in promoting the "matrix" role for the PCS in IEEE.

□

Artifical Intelligence and Expert Systems

"Intelligence . . . is the faculty of making artificial objects, especially tools, to make tools." (Henri Bergson, 1859-1941.) What, exactly, is meant by the term "artificial intelligence" (AI)? Dr. Patrick H. Winston, Professor of Computer Science and Director of the Artificial Intelligence Laboratory at the Massachusetts Institute of Technology, defines AI as "the study of ideas which enable computers to do the things that make people seem intelligent. The central goals of AI are to make computers more useful and to understand the principles which make intelligence possible."

For decades, artificial intelligence was the province of theoreticians and experimental programmers working almost unnoticed in the backrooms of academia. AI projects, once relegated exclusively to the laboratory, are now accomplishing practical results. Most of these results, explains Dana S. Nau in his article in the February 1983 issue of *IEEE Computer,* can be attributed to the design and use of *knowledge-based* or so-called *expert systems* (ES).

What makes expert systems so special? Aren't they just computer programs? The main thing to consider is that they represent a shift from traditional formula/data manipulation (like the FORTRAN programs we have all written to calculate loop currents in R-L-C circuits using some form of numerical integration) to knowledge manipulation.

In most expert systems, the problem-solving model in the application domain is a separate entity, called the *knowledge base,* rather than an implicit part of the program code. In addition, this knowledge base is manipulated by a separate, clearly identifiable control strategy, called the inference engine. (An idealized representation of an expert system is described by Hayes-Roth, *et al., Building Expert Systems,* Addison-Wesley, 1983.) Though no existing expert system contains all these components, one or more components occur in every system. The ideal ES, explain the authors, contains a language processor for problem-oriented communications between the user and the expert system; a "blackboard" for recording intermediate results; a knowledge base comprising facts as well as heuristic planning and problem-solving rules; an interpreter that applies those rules; a scheduler to control the order of

rule processing and resolve conflicts; a consistency enforcer that adjusts previous conclusions when new data (or knowledge) alter their bases of support; and a justifier that rationalizes and explains system behavior.

Some of the first commercial products to emerge from this relatively new technology are software tools to speed up expert system development. These consist primarily of existing expert system software that has been stripped of its knowledge component, leaving only a *shell*—which is the reasoning and natural language interface mechanism that interprets and draws conclusions from the knowledge. These shells are being marketed as "the tools" to speed up the creation of "functional" expert systems in real-world environments. "By garnering a knowledge base from human specialists," explains Paul Kinnucan in *High Technology,* March 1985, "and encoding it in the language understood by the shell, a developer can produce a full-fledged expert system without having to create the reasoning and linguistic component from scratch. 'You supply the knowledge, we supply the intelligence,' claims a typical brochure."

In order to expedite the knowledge engineering task (the difficult and time-consuming task of constructing and testing knowledge bases), most shells integrate text editors, program monitors, and other software tools. These development packages are frequently called knowledge engineering environments or knowledge engineering tool kits, to distinguish them from the shell itself, which is often called the run-time environment. Costs for these tools can range from a few hundred dollars for PC-based tool kits to over one hundred thousand dollars for integrated environments requiring special-purpose hardware called AI workstations or LISP-machines.

Computer programs in AI are essentially procedures that manipulate symbols that represent objects. In traditional computer applications, however, symbols often primarily represent numbers and mathematical operations. In AI, however, symbols may represent virtually any type of object: a person, a concept, a process, or even a complete class of objects. Objects considered elementary by the system (atoms) are represented by strings of alphanumeric characters, and complex objects (structures) are represented by connected lists of atomic symbols. The most important symbol-processing operations are matching two-character strings, objects, or lists, joining or separating objects to/from lists, and substituting one object for another (instantiation). Special computer languages have been developed for this purpose, of which LISP (LISt Pro-

cessing) and Prolog are the most widely used. Most expert system shells are built around a good LISP environment.

Unfortunately, there are a large number of LISP dialects (versions), each with its own unique array of software tools and function/applications libraries. COMMON LISP is a modern dialect of LISP which attempts to combine the goals of commonality, portability, consistency, expressiveness, compatibility, efficiency, power, and stability while producing a standardized version of LISP. Prolog, a relatively new AI language, has fared better in terms of standardization, but inherent limitations of the language itself make it less universally applicable than LISP (although it is the choice language of the Japanese "Fifth Generation" initiative). Most AI languages are interactive and interpretive in nature, with a built-in ability to produce self-modifying or "data-driven" code (i.e., more like APL than BASIC).

Students interested in pursuing a career in AI/expert systems should plan their courses of study to incorporate heavy concentration in two areas—one within classical EE and another within computer science. The first area is traditionally called computer engineering (both within and outside of EE) and would typically include courses in electronic circuits, logic circuits, integrated circuits, computer organization, micro-processors, digital design, and machine language programming. The second area is traditionally found in computer science curriculums (and more recently in some computer engineering curriculums) and includes courses in algorithm design and analysis, data structures, discrete mathematics, non-numeric processing, and programming. Students may also benefit greatly from courses in operating systems, systems programming, assembler programming, predicate calculus, matrix manipulation, and polynomial analysis.

Students should possess a working knowledge of LISP (and perhaps Prolog) and an introductory AI course before attempting an expert systems course. An idealized AI curriculum includes: 1) a course in a high-level structured language such as C or Pascal; 2) a course in algorithms and data structures; 3) an "introductory" AI priniciples course which includes the teaching of a working knowledge of LISP; 4) an "advanced" AI course which includes topics in problem/knowledge representation, logical deduction, and natural language understanding; and 5) a course in expert systems design and analysis (preferably one that uses a commercially available "shell" and requires a student project).

Students can supplement this structured, in-class study by reading textbooks, other books, technical journals, trade magazines, conference records, and university/government/research center publications. Due to the rapid growth of the industry, many books published even in the last five years may already be out of date. Most texts in AI/expert systems have been published in the last decade.

Among the best and most widely used introductory texts in AI are *Introduction to Artificial Intelligence* (Addison-Wesley, 1985) by Eugene Charniak and Drew McDermott; *Artificial Intelligence, 2nd Edition* (Addison-Wesley, 1984) by Patrick H. Winston; *Artificial Intelligence* (McGraw-Hill, 1983) by Elaine Rich; and *Principles of Artificial Intelligence* (Tioga, 1980) by Nils J. Nilsson. These books cover most of the fundamental aspects of AI. Charniak and McDermott's book is a particularly popular choice among universities. Nilsson's book should be read by those students desiring "greater depth and detail" or by those who wish to understand the history and evolution of AI.

A number of more specialized and advanced texts and books can be read and followed by most electrical and/or computer engineering undergraduates for greater state-of-the-art coverage. These include *The Handbook of Artificial Intelligence*, Volumes 1-3 (Kaufmann, 1981) by Arron, Barr, and Feigenbaum; *Artificial Intelligence: An MIT Perspective* (MIT Press, 1979), Winston and Brown (eds.); and *Readings in Artificial Intelligence* (Tioga, 1981) by B. L. Webber and Nils J. Nilsson. The *Handbook of AI* series should be a part of every electrical engineer's private library, since it is predicted that AI will impact all facets of EE. (A number of book-of-the-month clubs are offering this three-volume set in paperback form for less than ten dollars!)

Expert system texts have been available since the early 1980 s. The two most widely used texts in the classroom are: *A Guide to Expert Systems* (Addison-Wesley, 1986) by Donald A. Waterman, and *Building Expert Systems* (Addison-Wesley, 1983) by F. Hayes-Roth, Donald A. Waterman, and D. B. Lenat. Waterman's 1986 book is by far the most popular choice of academia, primarily because it is written by a single author and describes the state-of-the-art in expert system design methodology. This is an excellent advanced book that reviews all issues in expert system technology.

Books which treat specific applications of expert systems tend to be more advanced and demanding, yet

not beyond the level of many undergraduates. Some to look for include *Machine Intelligence and Related Topics* and *Introductory Readings in Expert Systems* (Gordon and Breach, 1982 and 1984, respectively), both by Donald Mitchie; *Knowledge-Based Systems in Artificial Intelligence* (McGraw-Hill, 1982) by R. Davis and D. Lenat; *Expert Systems and Fuzzy Systems* (Cummings, 1985) by C. V. Negoita; and *Readings in Medical Artificial Intelligence* (Addison-Wesley, 1984), Chancey and Shortliffe (eds.).

For those students who wish a very general overview of AI/expert systems, four books come to mind: *Intelligent Machines: An Introductory Perspective of Artificial Intelligence and Robotics* (Prentice-Hall, 1985) by W. B. Gevarter; *Artificial Intelligence* (Harper and Row, 1984) by O'Shea and Eisenstadt; *Understanding Artificial Intelligence* (Texas Instruments, 1985) by H. C. Mishkoff; and *The Artificial Intelligence Experience: An Introduction* (Digital Press, 1985) by Susan J. Scown. Scown's book is probably a good choice for those students who wish an inexpensive, "reader's digest-type" introduction to the AI field.

LISP books have been available for a number of years and cover the whole spectrum of applications including implementation and performance issues. Some to consider include *LISP 2nd Edition* (Addison-Wesley, 1984) by Patrick H. Winston and Berthold K. P. Horn; *Common LISP* (Digital Press, 1984) by Guy L. Steele, Jr.: *LISPCRAFT* (W. W. Norton, 1984) by Robert Wilensky; *Programming in Common LISP* (Wiley, 1985) by Rodney A. Brooks, and an old favorite, *Let's Talk LISP* (Prentice-Hall, 1976) by Laurent Siklossy. For Prolog, *Programming in Prolog 2nd Edition* (Springer-Verlag, 1984) by W. F. Cloksin and Chris Mellish is *the* book to read, both as a reference and as a user's manual.

In addition to books, journals offer the student a wealth of technical information. Often, interesting, easy-to-read articles concerning AI are published in general and trade journals. Such articles include: "Computers Than Think Like Experts," by Paul Kinnucan (*High Technology*, January 1984, p. 30); "Software Tools Speed Expert Systems Development," also by Paul Kinnucan (*High Technology*, March 1985, p. 16); "Artificial Intelligence is Here," (*Business Week*, July 1984, p. 54); "Expert Computer Systems," by Dana S. Nau (*Computer*, February 1983, p. 63); "Expert Systems: Limited but Powerful," by W. Gevarter (*IEEE Spectrum*, August 1983, p. 39); "Expert Systems for Personal Computers," by Konopasek and Jayaraman (*BYTE*, May 1984, p. 137); and the entire October 1983 issue of *Computer* devoted to knowledge representation issues.

Journals totally or partially devoted to AI/expert systems include: *Artificial Intelligence*, published monthly by North-Holland Publishing Company; *IEEE Expert* and the *IEEE Transactions on Pattern Analysis and Machine Intelligence*, both published by the IEEE Computer Society; *The Computer Journal*, a European monthly publication; and the SIGART Newsletter and *Computer Surveys*, published monthly by the Association for Computing Machinery (ACM).

Scientists and engineers working in the field of AI/expert systems also use several trade journals for general industry news and new product information. Journals to look for include: *Technology*, published monthly, *High Technology*, also published monthly, and the *AI Magazine*, published quarterly by the American Association for Artificial Intelligence (AAAI). Journals such as *BYTE* and *DATAMATION* provide general information and occasionally publish excellent AI articles. Such journals help us keep pace with new hardware developments which affect AI markets.

A number of conferences deal specifically with artificial intelligence and related technologies. Conference records and proceedings describe the latest state-of-the-art technical advances. Perhaps the most important ones to attend include: the AAAI Conference (yearly); the International Joint Conference on Artificial Intelligence, sponsored by the AAAI (bi-annual); *COMPCON*, sponsored by the IEEE Computer Society (annual), and the regional and national IEEE sponsored conferences and workshops on artificial intelligence, expert systems, and related areas.

To close, here are Peter J. Dennings' immortal words from this January/February 1986 *American Scientist* article, "The Science of Computing": "There is nothing magic about expert systems. We cannot expect an expert system to help if we do not know how something is done. Artificial Intelligence cannot replace Real Intelligence."

—*A. Antonio Arroyo*
  Gainsville, FL

© 1986 IEEE. *Reprinted, with permission, from* IEEE POTENTIALS, *Volume 5, Number 3, October 1986.*

□

Documentation of a Surprise

"Jim, make sure you choose a banquet seat where you can get a good shot of Debby's expression when her name is called as the recipient of the award."

Our PCS president, Lois Moore, spoke these words confidentially, anticipating the coming surprise for Debby Flaherty. She spoke to me because I had brought my videocamera to our annual PCS conference at the Adam's Mark Hotel in Charlotte, NC.

I had bought the videocamera several months before, and since then my wife Marjorie had complained about the horrible lump that had attached to my right shoulder. I had experimented with it on various types of subjects, but when I announced I was going to take it to Charlotte, Marjorie asked why I wanted to do that. "I want to make a documentary," I blurted out lamely; but the explanation seemed to satisfy her because all she replied was "Don't break it!"

So I wandered around the conference for two days quoting my wife's comment about my "horrible lump." I photographed most of the activities of the conference—people working at the registration table, talking in the hallways, presenting papers, asking questions, drinking coffee, munching on Danish. All were fair game for my ubiquitous camera.

I took pictures of the exhibit area where hundreds of people were milling around, eating, drinking, talking, and examining the new technology demonstrated by the various exhibits. Being quite proud of my recent acquisition, I explained its features to anyone who would listen. Several declared their intention to purchase one soon, including Lacy Martin, who asked how heavy it was. I put it on his shoulder and placed his fingers on the control buttons to demonstrate its light weight and perfect balance. I had him focus on me and zoom in to see how versatile it was.

Whenever I could in my wanderings, I took a surreptitious shot of Debby Flaherty. When she noticed, she would smile coyly and wave; and I wondered whether she suspected anything. I decided to be very careful not to overdo it, and concentrated on group shots and distance shots that would enable me to zoom in without her knowledge.

I had been the awards chairman for three years previous to this, and had engineered surprise awards to Richie Robinson, Lois Moore, and Dan Rosich with varying degrees of success. Then, when I became vice president, Roger Grice took over as awards chairman. I was thoroughly familiar with the procedure therefore, and was not surprised when I received a secret ballot in the mail listing Debby as the nominee for the Alfred N. Goldsmith Award for 1986. Debby is one of my favorite people, so I voted for her enthusiastically.

Included with the ballot was Roger's explanation of the simple strategy he had devised to fool Debby—that of simply maintaining complete silence regarding the award. Everyone was expressly instructed not to mention the award in Debby's presence.

To make it even more of a surprise, Roger generated an additional strategy at the conference. Instead of preceding the presentation by the customary lengthy list of the awardee's accomplishments, which was almost always a sure tipoff, he decided to make just a few general statements that could apply to almost anybody, and then spring the surprise. Since I had been the previous awards chairman, he drew me aside and inquired whether I thought that would work. I saw no reason why it wouldn't.

At last, after two days of conference and everybody playing cat-and-mouse about the award, the evening of the Awards Banquet arrived. I took Lois's advice and seated myself at the table reserved for the Administrative Committee, directly across from Debby. I took numerous opportunities to pan the crowd as they helped themselves to the delicious Carolina barbecue, and zoomed in on them as they ate and talked their fill. At first I rested the camera on the floor beside me while I was eating. Then, muttering loudly that I didn't want it to be kicked, I placed it on the table directly in front of me. I took a few more shots of the tables, each time returning the camera closer to the spot where I could see through the angled eyepiece that it was focused directly on Debby.

As the time for the award grew near, I casually draped a napkin over the top of the camera to hide the tell-tale red light that flashes when the camera is running, and furtively set it on automatic. I turned to Lacy Martin (who had earlier asked all about the camera and who now happened to be sitting beside me), explained what I had done, and asked him to slide his chair back when Debby name was called so that all I would have to do would be to pick up the running camera and follow Debby to the podium, taking pictures as she went.

The moment was here! Roger introduced the past recipients of the award and gave his prepared general comments about this year's recipient.

I stole a look. My camera was running. Debby was sitting very still, expressionless, her whole attention riveted on Roger. Did she have any idea? Then came

the announcment—"The recipient of the 1986 Gold-
smith Award is—Jim Hill!"

"What the heck is this . . . my camera is trained on
Debby, but she's not . . . did I hear him call *my* name
. . . yes, he did call my name . . . I'd better go up there
. . . oh those bums . . . they really did it . . . they really
did it this time . . . gee, what am I going to say . . . how
am I going to cope with this one!!?"

A still-surprised Jim Hill receives the Alfred N. Goldsmith Award
from Roger Grice. Congratulations Jim!

I think I shook Roger's hand as he handed me the
plaque. He was grinning like a Cheshire cat, as were all
of his co-conspirators. Lacy Martin was, as if on cue,
taking *my* picture with *my* camera.

What a setup! Many events over the past few days and
before suddenly clicked into place. Boy, had I been a
cooperative victim!

And it wouldn't have been nearly so much fun without
my videocamera to document just how thoroughly I
really was had!

—*James Hill*

☐

Call for Papers

The Association of Teachers of Technical Writing
announces a call for papers for the 1987 Modern
Language Association Convention.

You may submit a proposal that addresses either of the
following two topics:

TOPIC I: Beyond the "Service" Course: Teaching
Graduate and Advanced Undergraduate
Courses in Scientific, Technical, and
Professional Communication.

With the proliferation of undergraduate and graduate
programs in scientific, technical, and professional com-
munication, teachers must consider what constitutes
advanced education in this evolving discipline. Papers
may address topics such as: 1) the design and admin-
istration of advanced programs, including discussions
of the essential theoretical and practical elements;
2) trends, techniques, and innovations in the teaching
of advanced courses, including the use of devices such
as internships, simulations, and interdisciplinary col-
laborations (e.g., with engineering, computer science, or
psychology).

TOPIC II: Establishing a Foundation: The History of
Technical Writing

From where do we trace our professional and
theoretical roots? Who were the significant early
technical writers? What trends have lead to the recent
growth of the discipline? In what ways is the history of
technical writing related to trends in disciplines such
as Engineering, Computer Science, Medicine, or Law?
What are the relationships to Rhetorical and/or
Literary history? What has been the role of the
military in the rise of technical writing? How has
technical writing theory influenced contemporary
composition theory?

Send a detailed, two-page proposal for either panel, by
February 2, 1987, to:

Stephen Doheny-Farina, Ph.D.
English Department
UNCC Station
Charlotte, NC 28223.

☐

Tools of the Trade

Writing and editing— the two halves of language

Part 1: a new way of writing

East is East and West is West and never the twain shall meet . . .

As far as the West is from the East . . . so far should the act of Writing be from the act of Editing. They are distinct, independent activities, performed, it seems, by different halves of the brain. Writing is putting your thought into words. Editing is making the verbal expression palatable and understandable to the people who will read it.

Does this separation of tasks appear obvious? Perhaps—until we look at our own work. Pull out a first draft of something you wrote, a draft for a letter, a memo, a part of a technical report, anything at all. Do you see sentences begun, then crossed out and abandoned? Are there words written, struck through, changed—then perhaps written all over again? If so, you have *not* separated the writing and editing functions. You have, like almost everyone who picks up a pen or a pencil, begun to write and edit all at once.

Why change?

Now, what is wrong with this? Why do I suggest writing with *no* changes allowed and *then* editing? Two reasons.

First, you cannot *express your thoughts* clearly in writing if you're occupied in *correcting your writing* at the same time. In an excellent book on the subject, *Writing with Power,* Peter Elbow says that the writer should write his first draft for at least ten minutes without stopping—just to separate the producing from the revising process. At this stage, we should not be thinking about "how to write." Rather, we should be focusing on the subject of our discourse and allowing our creative energy to express our thoughts freely. You can see why. If you're half-focused on describing your latest experiments with freeze drying and half-focused on the words you're using to describe them—you will do each job half-well, at best.

The second reason for writing first, without editing, concerns the content of your work. If you write down all you know about the subject with no corrections or constraints, you will find you know and can express a lot more than you thought. It's like sending a plumb line down to the depths of your knowledge and experience and pulling back all that's there, with no interfacing signals to knock you off course.

So, when you sit down to write, just write. Do not allow yourself to cross out or change a single word. No stopping sentences midway, either. Let your thoughts on the subject flow their way. It may sound easy—until you try it. For to write purely like this is to break the habit of a lifetime. We have all been conditioned to write, cross out, and start again, hobbling along painfully to the end of our messy pages. Why? Mainly, I think, we don't want to waste time. We feel that if we can write and correct *all at once,* we'll have the job done in half the time. Deliberately saving the correcting for after the writing tugs at the time-constricted heartstrings of the busy twentieth-century scribbler.

Time's a wastin

There is only one way to overcome this fear of time-wasting. I tried it, and I have written first and edited second ever since. Time yourself. Make a strict account of every minute spent writing "the old way," from the moment you pull out the sheet and stare angrily at it to the moment you give it up for final typing. Then, try writing a similar project "the new way." Time yourself again. The new way goes like this:

Take out a sheet of paper and write your topic across the top of it. Begin to write about it. Write anything and everything that comes into your head on the subject, in the order it appears to you. *Force* yourself not to alter a single word. (The effort will send you into a spin the first time, but future writing will prove it's

worth it. Over the years, you will save hundreds of hours.)

You will notice two things. First, after the first page or so, your speed of writing will pick up noticeably—because you are gradually freeing your creative faculties of critical clamps. Secondly, you'll be touching on aspects of the subject that you hadn't thought of before. Your hand will hardly be able to keep pace with your articulate thoughts. And—you will feel exhilarated, for what you have just done is allow your creative forces full, free rein.

After you have written all you want to write on the subject, stop. Check to see how much time you spent on that phase of your work. Then put the writing aside and do something else. Even if this phase is brief, do take it. Give your critical faculties a chance to approach your writing with a fresh start.

Now look at what you have written as if you were a third person examining it. You will find that you *feel* like a different person from the one who wrote the draft, for you are now approaching it wholly from the critical viewpoint. Before, your angle was wholly expressive. Now you are ready to edit your work.

Be our own guinea pig

Before we come to editing, the second half of the world of writing, I would like you to make an experiment. Set aside ten minutes, today. Select a topic that you will have to write about in a memo, a letter, or a report. Take out a pad of paper and write across the top of it. And then, for ten whole minutes, write about that topic without stopping, with *no* corrections, *no* fresh starts. At the end of the ten minutes, stop writing. Put your paper away, and try to resist looking at it, preferably until tomorrow! I think you will be surprised at what you see and the way you feel.

Keep the piece of writing until the next column reaches you. Then you'll see how to shape it through careful, systematic editing.

□

Call for Research Reports

Technical Communication, the journal of the Society for Technical Communication, seeks reports on "in-progress" research to be published in the department, "Current Research in Technical Communication."

This department features in-progress research into a wide range of areas, such as:

• testing communication strategies
• writing, reading, and speaking in the workplace
• visual communication
• teaching technical communication
• communicating via new technologies

Reports should explain the:

• rationale
• methodology
• results (preliminary)
• implications

Submissions should not exceed 1100 words.

Send Reports to:

Steve Doheny-Farina, Ph.D.
English Department
University of North Carolina, Charlotte
Charlotte, NC 28223

□

Leon Pickus Appointed Director

Leon Pickus has been appointed Director of International Technical Activities and Conferences for PCS. His responsibilities include focusing PCS activities on the needs of IEEE engineers and scientists; directing and coordinating professional conferences toward achieving pre-established objectives; and providing professional communicators with the knowledge, techniques and tools needed to promote effective communication within the technical community. Leon has played an active role in PCS and its conferences for many years. Our congratulations to him on this appointment.
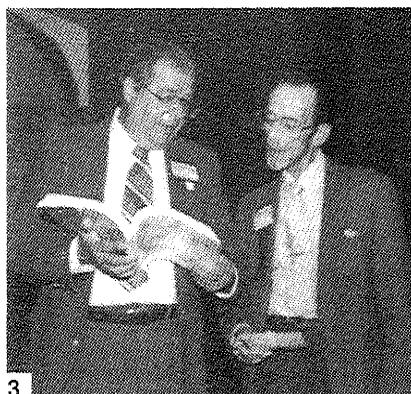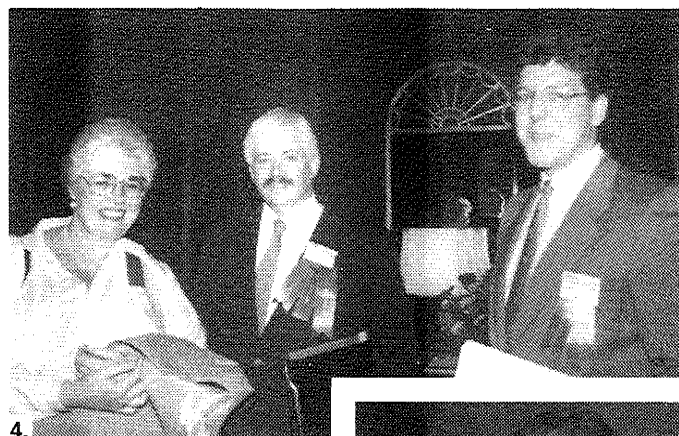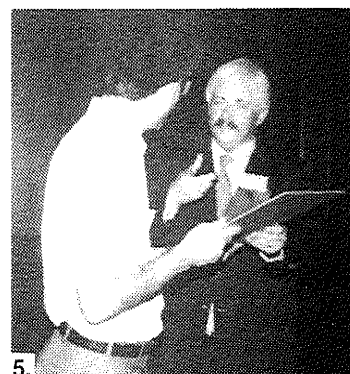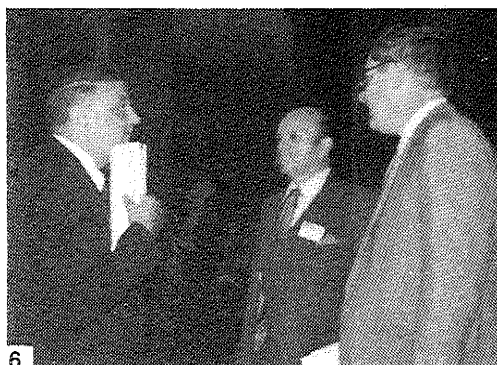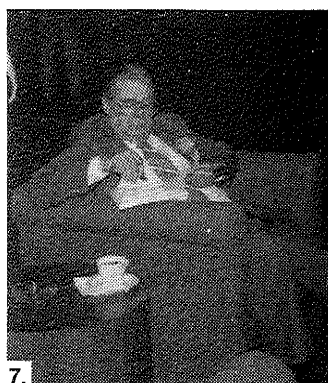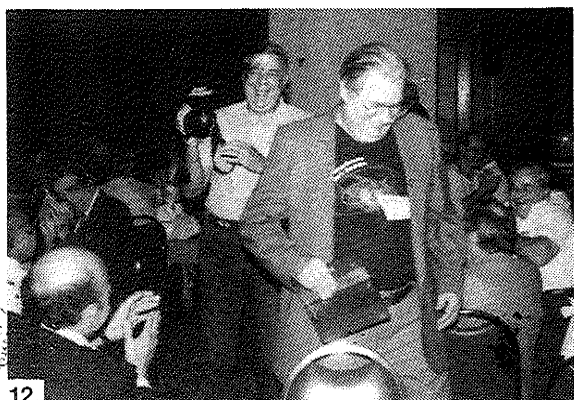
□

Memories of IPCC 86

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.
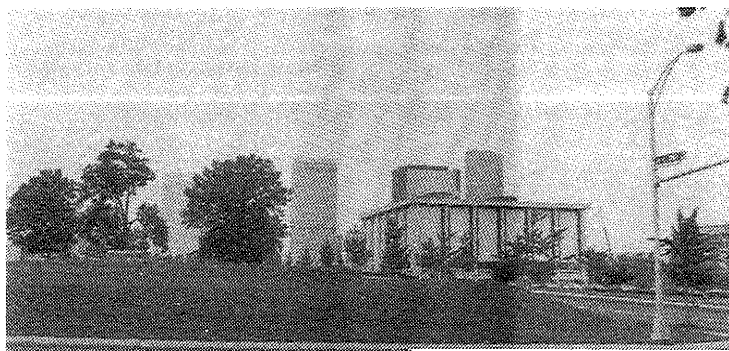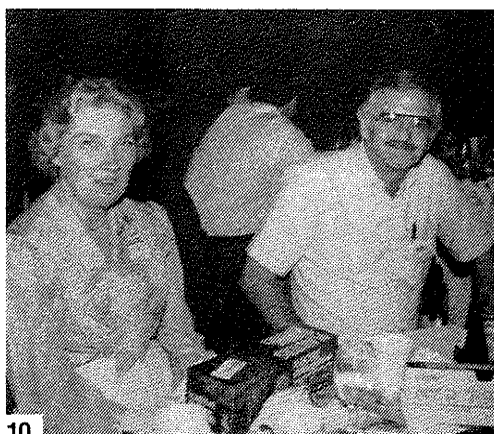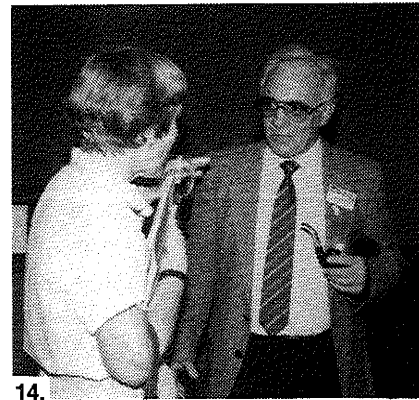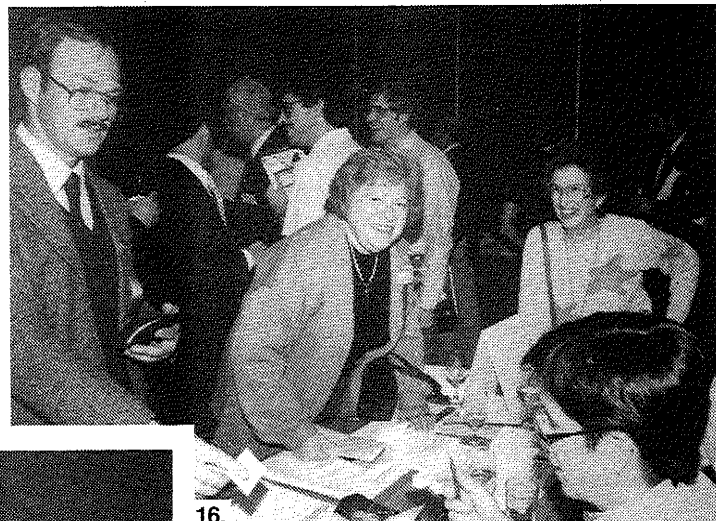
1. Beautiful Charlotte, our host for IPCC 86.
2. Thanks to Joan King, registration went along smoothly. 3. Jim Hill and Harry Moore review one of the many interesting articles in the *Proceedings*.
4. Roger Grice and friends get ready to attend the next session. 5. Roger Grice presents Mark Haselkorn with the "Best Conference Paper" Award. Congratulations, Mark! 6. Lacy Martin, Leon Pickus, and Bill Kehoe get involved in some heavy discussion!
7. Jim relaxes after the excitement of receiving the

Goldsmith Award the previous evening. 8. Ron Blicq thinks the trip from Canada was well worth it! His home city, Winnepeg, will be our host for IPCC 87.
9. Bill Kehoe and his wife Marlene take a well-deserved moment to relax. 10-11. As usual, the annual banquet was a success! 12. Good thing Lacy learned how to operate Jim's videocamera! 13. Lacy Martin gives Joan King a pat on the back for all her efforts. 14-19. The Exhibitor's Night is becoming a very popular feature at the annual IPCC.

Get at the Nucleus of Language

One day while I was driving, I saw a sign in a floral shop that said, "BOKAYS $4." I wondered if the word had been misspelled purposely for shock value or if it was a legitimate mistake.

For the sake of argument, let's assume that the mistake was an honest one—that the proprietor spelled "bouquet" just as he pronounced it. This unfortunate blunder aptly illustrates the difficulties speakers of English have when they attempt to link pronunciation with spelling. Whether the shop owner pronounced the word correctly in the first place we will never know, but the correct articulation of words can frequently affect your spelling ability.

Learning to *correctly* pronounce English words can become a royal headache if you attempt to use spelling as your *only* guide. Nevertheless, a good many people misspell a great number of words due to incorrect and sloppy pronunciation. It is a common error to spell "incidentally" as "incidently" because that's the way most people say it. "Government" frequently is spelled "goverment" because we hear it said that way.

To reply solely upon our ear as a guide to spelling can be confusing and often misleading for speakers of English. To illustrate the absurdity of our language, George Bernard Shaw, the playwright and a great advocate of spelling reform, spelled FISH in this manner: GHOTI. He used the GH from "tough," the O from "women" and the TI from "addition."

Despite the built-in handicaps of the English language, correctly pronouncing words will at least get you off to a good start. Some radio broadcasters used to place marbles or other small objects in their mouths and thus learned to articulate so well that their speech was unhindered. By listening to some of the entertainers who bring us the evening news, it is evident that this approach to pronunciation is no longer being used.

Daily we hear our language mispronounced by those who would be expected to know better. This reinforces our own sloppy pronunciation. It becomes a difficult battle then to remember to spell a word in a way which we never hear spoken.

How did our language ever get so complicated in the first place? In order to understand why our spelling and pronunciation are not only inconsistent, but irrational in many instances, a peek into history will help to unravel the mystery.

The Historical View

Early man first recorded speech by picture writing. Picture writing requires concrete, visual concepts and exceptional skill in portrayal if it is to be read. At best, it is limited to very factual records embodying easily represented ideas.

Our own alphabet can be traced back to the next stage—hieroglyphic writing. Ideographic and syllabic writing developed from hieroglyphics. Then Cadmus, a Greek genius, saw that his spoken language could be related to a written language based on a very few basic sounds. After each sign was learned, any word of the language could be represented by a combination of the signs. Thus, the alphabet was invented.

For centuries scholars have called attention to the chaos and unnecessary confusion of English spelling. During the 14th and 15th centuries people spelled as they saw fit. Since there were no rules, they merely matched sound with letters.

This brought about great varieties in they way one word could be spelled, given the region of the country that originated it. In England, the Scottish and Irish influence also added confusion to pronunciation and spelling.

Until the 14th century, it was often possible to attribute manuscripts to their dialect source and to what part of England they came from. In the early 15th century, rapid changes evolved in the spoken language and spelling failed to keep pace. Many of the old grammatical inflections disappeared about this time and spelling thus became very uncertain.

With the influence of students of Latin and Greek, during the Renaissance the notion that spelling should clearly represent sound gave way more and more to the idea that it should be associated instead with *derivation*! Often times these students incorrectly assigned the wrong etymology to words and falsely altered their spellings.

We have retained so many archaic and incorrect spellings from these early centuries that much of our spelling legacy is nothing more than a museum piece. Here are some examples of these misguided scholars and their disastrous effect on our language:

ISLAND: From Old English *iland.* The spelling wrongly suggests association with the Latin *insula* and "s" was inserted in the 15th century.
SOVEREIGN: Spelled *soverain* by Chaucer and

sovran by Milton correctly, and related to the late Latin *sovranus* which in turn is related to the classical *superanus;* has nothing to do with *regno* and *reign.* Thus, a misguided scribe inserted a "g" and has caused untold misery to generations of English spellers.

The publication of the King James version of the Bible in 1611 helped to solidify the language. The opening verse of the Book of Genesis was spelled like this:

IN the beginning God created the Heauen and the Earth. And the earth was without forme and voyd, and darkenesse was vpon the face of the deepe and the Spirit of God mooued vpon the face of the waters.

A Search for New Methods

Educators have long struggled to find the best and most efficient method to teach people to read and spell. The problems have been debated for centuries. Sir Charles Reed, Chairman of the London School Board in 1877, said that such difficulties were ". . . attributable in a great measure to the difficulties of the present mode of Spelling, it is advisable for the promotion of Education, that some change should be effected, in order to remedy the evil."

In 1768, Ben Franklin attempted to take the bull by the horns to stop this spelling foolishness. He devised his own spelling system, wrote his own alphabet and justified its use by saying, "As to those who do not spell well . . . their present spelling is only bad, because it is contrary to the present bad rules; under the new rules it would be good."

Franklin signed a letter in his own spelling system in this manner:

yi am, myi diir frind,
iurs afekhynetli,
B. Franklin

Other innovative Americans attempted to impose some order too. In 1793 Dr. Thornton published his *Cadmus, Or a Treatis on Written Language* in which he recommended a wholesale reform of orthography with the introduction of several new characters to the alphabet. Dr. Andrew Comstock published books with his own simplified spelling, and William Pelham, a bookseller of Boston, published *A System of Notation* and other books as yet another approach to spelling English.

Any conscientious person who frequently consults a dictionary as a guide to pronunciation or spelling and is old enough to look back over a good number of years will be able to see trends and changes in the English language. "Ain't," once an illiterate utterance, has found its way into the pages of most standard dictionaries and is now labeled "colloquial."

Our spellings retain archaic vestiges that our mouths ignore; for example, "knight": We say "nite" so why not spell it that way? Perhaps someday we will, since the very nature of language is to change to reflect the communication needs of its speakers. Maybe it will take a massive uprising of the people to demand the grand scale alteration of English.

Here are a few hints to hopefully help you cope until the glorious spelling revolution comes!

Here's Help

To improve your spelling and pronunciation, you must first understand syllabication. The *Century Junior Dictionary* defines *syllable* as "Part of a word pronounced as a unit consisting of a vowel alone or with one or more consonants."

to	has one syllable
let ter	has two syllables
syl la ble	has three syllables

The easiest way to divide words into their parts is to clap them out. This is the beginning method in elementary school to teach children to distinguish word sections. This method is all an adult needs to facilitate syllabication unless memorization of rules is desired.

Clap as you say the word: el (clap) e (clap) phant (clap). You clapped three times and there are three syllables in "elephant." Do this as you pronounce the troublesome words here.

ac com mo date	ac know ledge
en deav or	mag nif i cent
Wed nes day	mag a zine
dis ap pear	dis ar range
in ter pre ted	

Here are syllabication rules for those of you who may need a quick review:

1) A consonant between two vowels is pronounced with the later syllable when the first vowel is long: ro man tic.

2) A consonant between two vowels is pronounced with the first vowel if it is short: vow el.

3) Adjoining consonants most often separate into syllables: can dy.

4) Double consonants are not divided when a *suffix* is added: hiss ing, hitt ing.

There are some words that fall prey to a different type of pronunciation error—the addition of syllables or letters. Listen to yourself say the following list of words, noting if you tend to add parts that do not exist.

> drowned (one syllable)
> grievous (two syllables)
> mischievous (three syllables)

Hidden Little Words

Another clue to help with pronunciation and ultimately with spelling, is to look for the little words buried within big words. To remember the "n" in "government," remember that it contains the man's name, Vern, and that Vern is involved in "government."

Another example is the word "opinion;" it may contain comments sharp as a "pin." If we don't take care of the "environment" we may not have enough "iron" left in the future.

Mispronunciation causes some people to reverse letters when they write the word. They are hearing the word wrong in their heads and this misinformation results in errors.

Correct Spelling	Mispronunciation/ Misspelling
relevant	revelant
children	childern
hundred	hunderd
modern	modren
perspiration	prespiration
western	westren

Another groups of words that requires careful pronunciation is the "dropped E group." Problems arise when you remember the spelling of the original word and try to retain elements of it in the new form of the word.

Original Word	New Form of the Word
enter	entrance
monster	monstrous
hunger	hungry
disaster	disastrous

Articulate the consonants in the following words. If you're saying them, most likely you won't forget the letters when you spell them.

impromptu pumpkin description pamphlet congratulate representative quantity strictly

Vowel Problems

The following list of words contains problems with the letter "a"—either it's eliminated or another letter is substituted in its place. In some instances, accentuate the pronunciation and you will hear the "a" sound.

maintain grammar captain calendar partially principal dictionary straight salary equally

In this list, there is a problem with "e"—it is either forgotten or another letter is substituted.

efficient luncheon permanent privileges prominent competent conscience correspondence

The letter "i" causes problems in the following list.

quantities quiet definite business articles peculiar principle anticipate

This list contains words that have "o" problems. Study the words carefully.

attorney strenuously tailor competitors authorize favorable memory color

The double letters in the following list are not pronounced but they may cause you trouble.

accommodate committee succeed assistance across illegible occasion opposite possession interrupted appropriate proceed

February is often mispronounced as Feb oo er i and thus misspelled. Nuclear is often mispronounced nu cu lar.

Note the italic parts of the following words. These are areas many people forget to include in spelling the word.

accidentally accuracy acquire arctic aspirin athletic authentic basically boundary different height incidentally laboratory library miniature partner quantity surprise temperament temperature sophomore scenery candidate chocolate handsome literature

Despite the zany and old-fashioned spellings of many of our words, we are notoriously lazy about the pronunciation of our language. In our attempt to streamline

our language whenever possible, we have eliminated vowels, consonants and entire syllables. We have in the past 50 years incorporated a "fast food" approach to our language.

Language will change—it's the nature of the beast. But in our attempt to get the words out fast, we may be affecting our spelling skills. The direct link between pronunciation and spelling ability is one which is well documented. Analyze your own spelling difficulties and listen to your own pronunciation and some surprising insights may emerge.

—Linda L. Woods

Ms. Woods, a freelance writer based in Laguna Beach, CA, is a marketing communications coordinator from Griswold Controls in Irvine, CA. She is a technical writer in the mechanical engineering field.

Reprinted from the February 1986 issue of THE TOASTMASTER.

□

Surviving the Job Interview

Have you ever faced a job interview and been totally intimidated or distressed from the minute you met your prospective employer? Most of us have felt that way at one time or another and managed to survive.

But there are some techniques you can employ to avoid being intimidated and to project a strong image. You can avoid an uncomfortable or one-sided session, and actually control the interview so that a meaningful exchange of information occurs. Let's take a look at how you can overcome some specific obstacles during a job interview.

Musical Chairs

Have you ever sat down for an interview in a chair with a seat so low and arm rests so high that you felt ridiculous? If that wasn't bad enough, often the interviewer sits behind a huge desk, with a cigar in his mouth, firing questions at you from behind an imposing stack of reports. What should you do?

The first thing to do in this situation is to stand up and politely say, "Excuse me, but is there another chair I might sit in? This one is extremely uncomfortable." Your host will most likely bring you a different chair.

If this direct-request approach bothers you, sit more on the edge of the chair; don't slump back fully relaxed. Place the chair at a different angle to the desk, so you don't have to peer over the stack of reports.

Holding the Line

Suppose the interview is progressing nicely, when suddenly the interviewer receives a phone call. If the call lasts a minute or two and the interview resumes, fine. But what if the call extends for 10 or 15 minutes and there is no indication that the conversation will end shortly?

This is a tough predicament. Arbitrarily set a time limit, be it 15 or 20 minutes, after which time you will not remain seated. When that limit is reached, slowly get up and gesture that you have other business matters to attend to and would like to proceed with the interview or reschedule it at a more convenient time. One way to achieve this is to point to your watch as you rise from the chair, with a questioning expression on your face.

However bold this may seem, rest assured that the interviewer will either terminate the call and continue the interview with a new measure of respect for you, or will ignore you, in which case you aren't seriously being considered for the job.

A Rush of Questions

If the interviewer poses a series of questions without allowing time for well-developed answers, you have two options:

1) Bring your answers to a quick close and move on to the next question.

2) Tell the interviewer you would like to more fully answer each question because you feel you have important information to supply.

If the pattern continues, it might be a clue from the interviewer that you are "over-answering." Shorten your answers and selectively offer extended answers.

Silence Is Golden

Do you know that a common fear shared by job applicant's is to have to face silence during the interview? A question is posed and answered, but the interviewer does not speak again. Silence. What should you do?

Sit there. If you have answered the question satisfactorily you're not obligated to keep the conversation

rolling. There's nothing wrong with periods of silence. However, rather than face a few seconds of silence, many applicants continue to reveal information that either wasn't requested, or is no longer appropriate. Some even talk themselves out of a job.

The "silence" technique may be used by some interviewers to draw out information that wasn't requested on a direct basis. When you have satisfactorily answered a question and have no other particular information to offer at the moment, sit quietly, face the interviewer and smile.

Stand Up for Yourself

Always stand up for yourself. Never let an interview or discussion focus on negative aspects of your career, your education or your background. Accent the positive. Focus the interviewer's attention on how you can readily contribute to the company and make a *significant* contribution.

Don't waste time trying to defend yourself or things that may or may not have happened, and don't waste time playing "point/counterpoint" with someone who is trying to diminish your presentation.

Thank You

Once the interview is complete and you can collapse at home into an easy chair, send a written note of thanks to your interviewer. Recognize that the interviewer took time from what is probably a busy schedule, and most likely did his/her best in meeting with you.

Finally, if you can walk out of a stressful interview smiling, you are on your way to the top.

—Jeffrey P. Davidson

Mr. Davidson, a Certified Management Consultant (CMC), is a frequent speaker on management, employee communications and leadership topics. An internationally-published author of business articles, Mr. Davidson has a B.S. in Marketing and an MBA from the University of Connecticut.

Reprinted from the January 1986 issue of THE TOASTMASTER.

☐

President's Message

Engineering "Phantoms" Respond

The Professional Communication Society's renewed goal of increasing support to the technical community must have struck a happy chord for some engineers who have responded on a "positive note." This letter, written by Bill Hibbard, an engineer with the National Aeronautics and Space Administration, is typical of the responses we've received.

"Your editorial in the September *PC Transactions* says you would like to hear from us. So, I'm writing you. I am one of the 'engineers' (i.e., not a professional communicator) who belongs to the Society. I joined for the very reasons you suggest: to get help and support in my professional communications. As a space systems study manager, I have lots of opportunities to write and to speak. (I also enjoy the English language.) And so it follows that I enjoy and appreciate your publications.

"About the only reasons I have for writing are (1) to encourage your plan to devote half the publications and conferences to us 'phantoms,' and (2) to assure you that . . . we do benefit significantly from your efforts. Most of us, I suspect, would not presume to intrude on the professionals with *Transactions* articles and conference papers, but please understand that we read the *Transactions* carefully.

"Thanks for your understanding and for the time and effort that you contribute to the engineers and engineering of the IEEE."

It's good to know that those who have written to us feel that PCS is playing a part in helping engineers share their knowledge—whether the work involves discovery, application, adaptation or refinement.

We plan to continue expanding our services to the technical community and hope that more of you will "drop your disguises" and come forward by communicating your needs to us. In the meantime, don't

overlook the many useful tools already produced by PCS, which include:

IEEE PRESS BOOKS

1) *Marketing Technical Ideas And Products Successfully!*, edited by Daniel Plung and Lois Moore.

In today's competitive society, the marketing function can no longer be left solely to the marketing group of an organization. Engineers and scientists must be willing to assume their roles. Buyers must be persuaded. This book explains how it's done.

2) *A Guide For Writing Better Technical Papers*, edited by Craig Harkins and Daniel Plung.

The successful engineer or scientist must be able to communicate information in a clear, concise and effective manner. This book is designed to help you develop the tools necessary to become better writers.

3) *A Guide For Better Technical Presentations*, edited by Robert Woelfle.

Engineers, scientists and other professionals frequently are required to give presentations. These might include giving a technical briefing, explaining an engineering proposal, describing a scientific breakthrough or outlining a management plan. This book tells how to maximize the effectiveness of such presentations.

COMMUGUIDE BOOKLETS

Booklet 1, "How to Publish an Anthology" by Daniel Plung and Lois Moore.

"Hot Off the Press," this booklet describes the fourteen major steps that should be taken in preparing an anthology, many of which are similar to those necessary for any writing or editing assignment.

Booklet 2, soon to be published, will contain practical advice on how to publish an invention disclosure. Two additional titles are planned for publication each year.

These are only some of the PCS offerings that are currently available. Two previously published *Transactions*, specifically geared to the engineering community, include the issues on Patents and Patenting for Engineers and Scientists and Public Speaking for Engineers. Both remain on our "best seller" list, probably because they are packed with worthwhile information that engineers want and need.

As you can see, PCS has not been ignoring engineers over the years. We have come through with some real "winners" for you "phantoms." It's just that we're refocussing just a bit to place more emphasis where it belongs.

I'll be happy to inform you how to take advantage of these products. Just drop me a line in care of The Johns Hopkins University Applied Physics Laboratory, Office 25-130, Laurel, MD 20707.

As Dr. Samuel Johnson (1709-84) stated, "Knowledge is of two kinds; we know a subject ourselves, or we know where we can find information upon it." We hope you will "find information upon it" through PCS.

—*Lois Moore*
  PCS President

□

Lacy Martin Appointed Chapter Chairman

Our congratulations to Lacy Martin on his appointment as PCS Chapter Chairman. In this capacity, Lacy's responsibilities include overseeing the various aspects of running a chapter, from formulating chapter development plans to providing manpower resources and technical programs. Lacy has been a strong force in promoting chapter development in PCS, and we're sure he will meet the many challenges of this new assignment.

□

Newsletter Deadline

Articles, news and comments for publication must reach the editor by the following dates:

Issue	Deadline
April	February 20
July	May 22
October	August 14

Send your contributions to Deborah Flaherty, AT&T Technologies, One Oak Way, Rm. 3WC110, Berkeley Heights, NJ 07922.

□

Best Conference Paper

Smart Documentation Systems, by Mark Haselkorn, won the award of best paper at the IPCC 86. Dr. Haselkorn is Associate Professor and Director, Scientific and Technical Communication, at the University of Washington's College of Engineering.
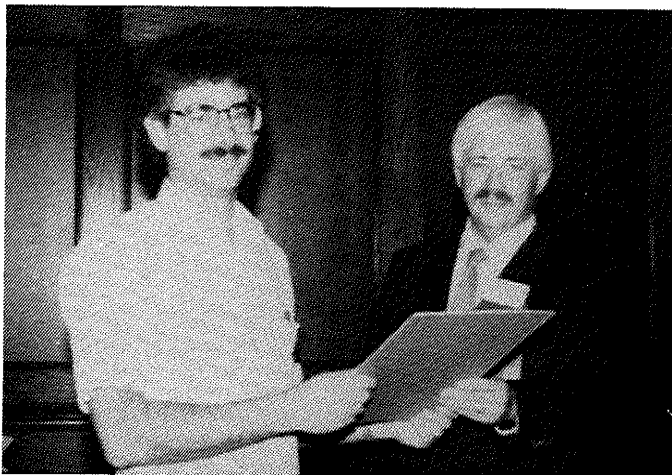
Dr. Haselkorn receives "best paper award" from Roger Grice.

In his paper, Dr. Haselkorn treats the next step in electronic documentation—smart documentation systems—which will combine the efficiency of present on-line assistance with the power and flexibility of expert systems. He discusses how smart documentation systems will work, why they will require natural language interfaces, why they will be needed, and the role of technical communicators in their creation.

☐

NCT Committee Leaps Into Desktop Publishing

The first major assignment of PCS's New Communication Technology Committee has been to develop a multimedia education program on technical writing and speaking for the IEEE Educational Activities Department. To speed up production and cut costs, the 350 pages were typed by the author on a personal computer and printed on a laser printer by a local word-processing house. Even under close examination the pages look as though they were typeset using traditional methods. I am describing how it was done because the process can be used simply and economically by any PCS *Newsletter* reader.

Designing the ILP

The objective in designing the ILP (titled "Communication Techniques for Engineers, Scientists, and Computer Specialists") was to create materials that could stand alone and yet still provide an effective learning experience. We recognized that this would be a tall order for a program that has to teach writing and speaking skills, and so resolved to use a multimedia approach. The core of the program would be a study guide which would contain key information and instructions, and would periodically refer readers to the resource and working materials. The resource materials were to comprise:

> a 410-page textbook (it would be bought off
>   the shelf),
> a 55-minute videotape, and
> a 55-minute audiotape.

The working materials were to comprise:

> the 104-page study guide,
> a 116-page workbook,
> a 99-page answer book, and
> a 32-page final examination.

The videotape and audiotape were to be carefully integrated with the print materials so that the student—who most likely would be working alone, probably at home—would have someone talking to him or her either on-screen or aurally in 10 of the 12 learning modules. This was done in an attempt to overcome the "aloneness" that often prevents independent study course participants from completing their courses.

To help offset the high cost of producing video and audio training materials, desktop publishing was considered as an inexpensive alternative to the normal typesetting that had been used for previous ILPs. The New Communication Technology Committee welcomed the proposal because it would provide an opportunity to test new technology.

Preparing the Manuscript

As author of the ILP I keyboarded (typed) the manuscript directly onto 5¼ in. floppy disks using my Sanyo MBC-555 personal computer and *Wordstar* software program. I then printed two review copies, using my Mannesmann Tally 160L printer in the "equivalent to letter quality" mode, one of the IEEE Educational Activities Department and one for PCS ex-president Dan Rosich, who acted as "peer reviewer."

Two months later I started keyboarding the changes suggested by the reviewers. Concurrently I made a final check of the instructions that would take program users through the somewhat intricate movements between the study guide, textbook, videotape, audiotape, workbook, and answer book. Finally, I ran my files through a program that removed the *Wordstar* symbols from the disks, because the word-processing people needed pure ASCII characters to work with.

Preparing the Camera-ready Copy

The decision to employ a word-processing house to create the camera-ready copy was a matter of expedience, because my equipment could not create copy of sufficient quality. Clearly, it would have been uneconomical to purchase state-of-the-art desktop publishing equipment. Alternatively, I could have rented a laser printer and purchased software for formatting the "typeset" print, but even then the cost would have been moderately high and the time to learn the program and typesetting rules would have been lengthy.

So I talked to "Keystrokes," a two-person operation that provides word-processing services locally. Its owner-manager, Linda Gransden, had had the foresight to purchase equipment that can provide a fairly comprehensive typesetting service which an operator can

keyboard from a handwritten or personally typed manuscript, or print from a client's diskettes. Keystrokes first keyboarded typesetting commands onto my diskettes, using a Compaq *Deskpro* computer and the *scLASERplus* software. We chose Times Roman as the typeface for the ILP booklets, and then Keystrokes printed the camera-ready pages with Hewlett-Parkard *LaserJet* printer (see the illustration for an exmple).

What were the advantages? First, the high quality of the product and the simplicity with which it was achieved.

Second, the ability to retain personal control of layout and presentation aspects.

Third, time, because my proofreading was cut to a minimum. After Keystrokes had inserted the printing commands they supplied me with an initial printout from the laser printer. Where with traditional typesetting I would have had to scrutinize every word looking for typesetting errors, have them corrected, and then proofread the corrections, this time I had to concentrate solely on layout and size of typeface used for the headings. There was no need to proofread any of my own keyboarded words, other than to make a cursory check to ensure that a paragraph or section had not been inadvertently omitted (this occurred only once in over 350 pages).

And fourth—and perhaps most important—cost. With traditional typesetting I would have had to pay between $12 and $18 per page for typesetting and page paste-up. With laser desktop typesetting my cost was reduced to under $5 for each camera-ready page. (If my pages had been pure narrative, rather than the complex arrangement of tables and boxes that occurred on almost every page, the cost would have been reduced to under $3 per page.)

The significance for you, as a *Newsletter* reader, is that you don't have to invest in expensive equipment and software to get into desktop publishing. All you need is your own PC to type your work, and the availability of a local word-processing house equipped with the appropriate software and a laser printer. As an author who has faced innumerable galley proofs and page proofs over the years, this experience has shown that desktop publishing can be (almost) painless; it has certainly proved to be the simplest method I have encountered for preparing a major publication "ready for camera."

—*Ron Blicq, Chairman*
PCS New Communication Technology Committee

MODULE 6

WRITING SEMIFORMAL REPORTS

Resource Materials Required: Videotape and Textbook
Time Required: Approximately 8 Hours

OBJECTIVES

Module 6 introduces you to longer reports—often called semiformal reports—in which much more information has to be synthesized, organized, and presented. You will learn how to:

- Plan and write investigation and evaluation reports.
- Plan and write a semiformal proposal.
- Assign relevant information to specific report parts.
- Assign supporting data to attachments and appendices.
- Form technical and nontechnical abbreviations that meet national and international standards.

EXPANDING THE REPORT WRITER'S PYRAMID

For longer reports you will be able to continue using the basic report writing plan you learned in Module 4 (i.e. SUMMARY STATEMENT—BACKGROUND—FACTS—OUTCOME). The main difference is that normally you will subdivide the Facts compartment into several subcompartments, and frequently you will subdivide the Outcome into two subcompartments.

> VIEW Part 4 of the Videotape: "Writing Longer Reports and Proposals" (about 6 minutes).

The short segment of videotape you have just watched shows the report writer's pyramid expanded into six main compartments, with the first letter of each compartment forming the acronym "SIDCRA:"

SUMMARY	(or SUMMARY STATEMENT)
INTRODUCTION	(you knew this before as BACKGROUND)
DISCUSSION	(previously known as FACTS)

Sample ILP page produced by simple desktop publishing method.

# Bring Back Just ONE Good Idea

THERE'S A SAYING ABOUT AT-TENDING A CONFERENCE: BRING BACK JUST ONE GOOD IDEA AND THE CONFERENCE PAYS FOR ITSELF.

IPCC 87 promises to be that kind of conference -- several times over. You'll be able to choose from among nearly 60 papers and workshops, on subjects ranging from practical report writing and editing techniques to computer graphics and tips for making oral presentations. You should be able to make it to at least 15 sessions - up to 20 if you hustle.

Even if you glean only one good idea from each session, that's a minimum of 15 good ideas. To say nothing of literally hundreds of lesser ideas you're bound to pick up during the sessions and the handful of informal lunches and get-togethers we've planned.

Some of the best minds in the world of technical communication will be there, demonstrating excellence at the podium or sitting in the audience next to you; people who want to discuss -- and discover -- good ideas. And your registration fee includes the cost of the conference proceedings, which you can mine at leisure for years to come.
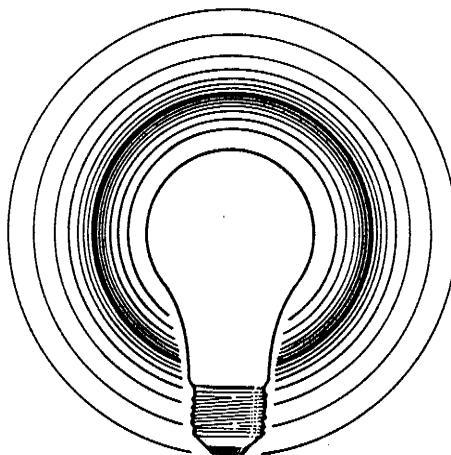
Even the setting promises a productive exchange: Canada -- a first in the 27-year history of Professional Communication Society conferences. A new place, a new set of faces, a new crop of ideas.

For details, write to Ron Blicq, conference chairman. Indicate if you would like to receive conference information and the call for papers. Let us know if you would like to present a paper, lead a workshop, be a session moderator, or take part in a panel discussion. The address:

Ron Blicq, Chairman
1987 International Professional
Communication Conference
c/o The Roning Group Inc
569 Oxford Street
Winnipeg, Manitoba, Canada
R3M 3J2
Tel: (204) 452-6480

1987 International Professional Communication Conference
Winnipeg, Manitoba Canada
October 14-16, 1987

IEEE

WINNIPEG

IPCC87

In the heart of the continent.
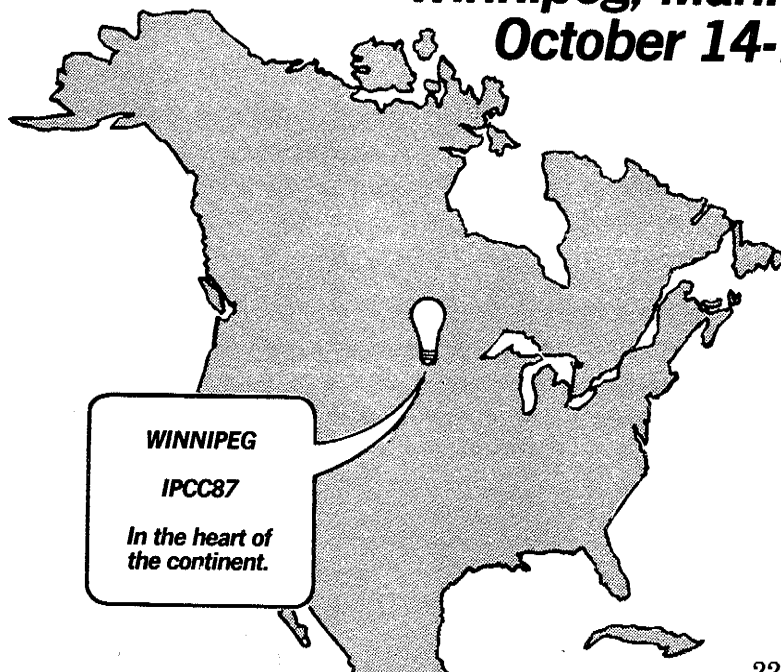
ENGINEERING COMMUNICATION
A BYTE INTO THE FUTURE

IEEE 1987

IEEE

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Announces the 15th Annual Competition for

1987-1988

Congressional Fellowships

A CONGRESSIONAL INTERNSHIP
FOR MEMBERS OF IEEE

PROGRAM: Electrical and Electronics Engineers and Allied Scientists are competitively selected to serve a one-year term on the personal staff of individual Senators or Representatives or on the professional staff of Congressional Committees. The program includes an orientation session with other Science-Engineering Fellows sponsored by the American Association for the Advancement of Science (AAAS).

PURPOSE: To make practical contributions to more effective use of scientific and technical knowledge in government, to educate the scientific communities regarding the public policy process, and to broaden the perspective of both the scientific and governmental communities regarding the value of such science-government interaction.

CRITERIA: Fellows shall be selected based on technical competence, on ability to serve in a public environment and on evidence of service to the Institute and the profession. Specifically *excluded* as selection criteria shall be age, sex, creed, race, ethnic background, and partisan political affiliations. However, the Fellow must be a U.S. citizen at the time of selection and must have been in the IEEE at Member grade or higher for at least four years. Additional criteria may be established by the selection committee.

AWARDS: IEEE plans to award two Congressional Fellowships for the 1987-1988 term. Additional funding sources may permit expansion of awards.

APPLICATION: Further information and application forms can be obtained by calling W. Thomas Suttle (202) 785-0017 at the IEEE Washington, D.C. Office or by writing:

<div align="center">

Secretary, Congressional Fellows Program
The Institute of Electrical and Electronics Engineers, Inc.
1111 Nineteenth St., N.W.
Suite 608
Washington, D.C. 20036

</div>

Applications must be postmarked no later than March 31, 1987 to be eligible for consideration.

New PC-ers August 1986–October 1986

ASIA

India
Chauhan, M. V.

Pakistan
Kayani, M. H.

Singapore
Khoo, H-K.

AUSTRALIA

New Zealand
Crawshay, G. R.

South Australia
Cocks, C. J.

EUROPE

Italy
Carnevale, M.

Switzerland
Honisch, W. E.
Schirren, P. T.

MIDDLE EAST

Iran
Ahmadi, S.

Saudi Arabia
Azzm, S. M.
Deweesh, M. A.

NORTH AMERICA

Canada

British Columbia
Sharp, D. S.

Ontario
Dunn, R. A.
Irwin, P. W.
Lee, J. K. J.
Lemke, E. W.
Misir, S.
Pak, H.
Sellmer, P. E.

United States

Arizona
Schram, K. J.

California
Chee, G. L.
Clingempeel, W. D.
Delacruz, M. B.
Gunnay, E. R.
Lomax, J. W.
Newman, J. R.
Reade, C. E.
Stidolph, D. C.

Colorado
Madigan, M. T.

Connecticut
Brigish, A. P.

Florida
Klenzak, A. P.
Stringfellow, A.
Vadas, S. F.

Illinois
Radadan, R.
Reyes, C. A.
Roubik, S. J.

Indiana
Armour, G. P.
Hollander, S.
Lands, C. S.
Snyder, M. W.

Louisiana
Prudhomme, W. J.

Maryland
Stinson, D. G.

Massachusetts
Waters, H. H.

Michigan
Martin, D. M.

Minnesota
Cummings, R. S.
Ridgely, P. M.

Missouri
Lohstroh, P. A.
Meyer, R. P.

New Hampshire
Fitsgerald, T. L.

New Jersey
Andrucyk, B.
Kirvan, P. F.
Leone, R. A.
Pann, L. R.
Wang, J. K.

New York
Farber, M. S.
Hussain, M. S.
Lazar, G.
Lynch, C. F.
Mattucci, S. P.
O'Hara, A. C., Jr.
Regelski, M. R.

Ohio
Compton, R. T., Jr.
Smith, W. F.

Oklahoma
Carroll, E. H.
Moses, B. D.

Oregon
Waldref, G. C.

Pennsylvania
Walters, B. E.

Rhode Island
Meditz, J. R.

South Carolina
Piper, D.

Texas
Goldman, S. J.
Matthews, R. J.
Wise, T. E.

Wisconsin
Burgdorf, D. H.
Qualheim, T. A.

—Emily Schlesinger

☐

Newsletter

IEEE Professional Communication Society