Update

Slate of nominees selected for Computer Society officers and Governing Board; statements to appear in September Computer

The following nominees were proposed by the Nominations Committee and approved by the Governing Board on May 8 in Chicago:

For officers

President: Richard E. Merwin
First Vice-President: Taylor L. Booth
Second Vice-President: C. V. Ramamoorthy

For Governing Board members

Dennis R. Allison
Barry Boehm
Jon T. Butler
James T. Cain
William D. Carroll
Y. T. Chien
Oscar N. Garcia
Paul L. Hazan
Samir S. Husson
David H. Jacobsohn

Stephen F. Lundstrom
John F. Meyer
David Pessel
Arthur V. Pohm
James Rudolph
James N. Snyder
Barbara R. Sternick
Robert G. Stewart
Stanley Winkler

with their biographical data and candidate statements, on or before July 25, 1981, at the following address:

IEEE Computer Society
10662 Los Vaqueros Circle
Los Alamitos, CA 90720
Attn: Computer Society Secretary

Length limitations and format suggestions for these materials, which will be published in the September Computer and included in the IEEE ballot mailing, are as follows:

Position statements

President 350 words
Vice-President 250 words
Board member 150 words

Biographical data (all nominees):

200 words
Suggested sequence of topics:
IEEE CS activities
Other professional activities
Current employment and position, professional experience and accomplishments
Degree(s) and major(s)
Awards and honors

Nominees are also requested to submit a recent black and white photo, preferably 3" x 5" or larger, to appear with their biographical data.

John R. Pasta, computer pioneer, succumbs

John R. Pasta, who retired this May as director of the Division of Mathematics and Computer Sciences at the National Science Foundation, died of cancer in Washington, DC, on June 5 at the age of 62. Pasta is internationally known as a pioneer in developing techniques for solving physics problems by computer, a field now known as experimental mathematics, and in advancing government-supported computer research.

He joined the staff of the Los Alamos Scientific Laboratory in New Mexico in 1951, and carried out a program in experimental mathematics on the Maniac soon after it was operational. This work—done in collaboration with John von Neumann, Stanislaw Ulam, and Enrico Fermi—involved diverse phenomena such as the dynamic behavior of nonlinear coupled mass points, n-body problem statistics, an unstable two-dimensional hydrodynamic problem, agglomeration of particles in an infinite dynamic system, Monte Carlo solution of the Schrodinger equation, and the topology of magnetic fields.

At the request of von Neumann, Pasta joined the Division of Research, Atomic Energy Commission, Washington, DC, in 1956, helped administer the program for support of theoretical physics, and initiated the program for supporting computer research that helped develop several academic centers for computer research during the 1950’s.

Three years after joining the staff of the Digital Computer Laboratory of the University of Illinois in 1961, Pasta formed the university’s Department of Computer Science and became its first chairman, a position he held until 1970. During this time, besides engaging in research in the organization of programs and machines and in the application of computers within various fields, he was actively involved in a collaborative effort with Brookhaven National Laboratory in the field of pattern recognition pertaining to bubble chambers.

In 1970, Pasta became head of the Office of Computing Activities at NSF and was appointed director of the Division of Mathematical and Computer Sciences when it was formed in 1975.

In 1979, he received the NSF’s highest honor, the Distinguished Service Award, for his “exceptional service in mathematical and computer sciences and for his outstanding contributions to computational mathematics.”
Above: General Chairman Albert K. Hawkes of Sargent & Lundy Engineers opens the 1981 National Computer Conference, held May 4-7 at Chicago's McCormick Place, and Mayor Jane M. Byrne welcomes attendees to the city. Over 73,500 attended the four-day conference which, under the direction of Program Chairman Alex Orden (not shown) of the University of Chicago, featured 109 technical sessions divided into eight tracks, as well as several special events.

Left: Marisa Bellisario of Italtel discussed the new field of telematics in her Monday, May 4, keynote address. Below: Even with some 230,000 net square feet of exhibit space available for a record 550 NCC exhibitors, aisles were frequently crowded and lines long. Many attendees, like John A. Schick (lower right), needed a brief rest.

New field of telematics described by NCC keynoter

Every telephone and TV set is a potential terminal in the worldwide communications network envisioned by Marisa Bellisario in her Monday, May 4, NCC keynote address on "The New Field of Telematics." Noting that there are approximately 500 million installed telephones in the world, the co-general manager of Italtel, Italy's largest telecommunications manufacturing company, suggested that existing equipment forms the basis for new services—in both the home and office—as telecommunications and data processing merge and evolve into "telematics."

"What is really new," she said, is the possibility of "one network for data, information, text, voice, and images." She went on to describe several experiments underway in Europe. Among them is the United Kingdom's Prestel, an operational videotex network providing service through a TV set equipped with a special adapter. Using the same technology and some of the Prestel software, Italy has just begun a videotex experiment. It was announced one month ago, Bellisario said, and is operating in Milan.

Bellisario admitted that the type of network she foresees "will require a lot of standardization." But, pointing out that "you can be in Malaysia and call my home in Italy," she's "quite optimistic."

"We were able to standardize in the telecommunications world," she said, "and there's no reason that we cannot do tomorrow what was done so many years ago."
"Informatics generalists" needed in decision-making, White House planner says

"Informatics generalists are sorely needed to guide us through the socio-economic transformation to the age of informatics," Richard S. Beal said in his NCC plenary address Tuesday, May 5, in Chicago.

These generalists, whom Beal sees as "emerging from a society which in recent times may have over-rewarded specialists," will not be technologists. "But the efficient and effective use of information technology should be their second nature," according to Beal, who is a special assistant to the President and director of the White House Office of Planning and Evaluation.

"Contemporary decision-makers simply do not know how to use the technology for their purposes," he said, noting that government leaders use computers "more for administrative support than decision support." Thus, it is not clear how the government will rise to the challenge of informatics, defined by Beal as the "confluence of computers, communications, and information."

While the number of CPUs in government has doubled and redoubled since 1968, "there have been few—if any—major systems improvements in the federal government in the 1970's," Beal said. "There is a lot of catching up to do in the 1980's."

Although the federal government has a reasonable ratio of workers per computer terminal today, by 1986 it will be "falling woefully behind the US work force as a whole in the use of new information technologies," Beal warned. Citing figures developed by IBM and the GSA, he noted that the current ratio of employees per terminal is about 48 for the work force as a whole, 20 for IBM clients, and 36 for the federal government. Projecting IBM's figures indicates that by 1986 the ratios will be 10 for the work force as a whole and six for IBM clients, but according to GSA figures, the government will still have 20 employees per terminal.

"The problem is even more acute in the White House," Beal said. "In meeting the management challenge of the modern presidency, we find that we don't even have the right kind of wires in the buildings. It's even been difficult getting a simple graphics terminal in my office."

And the stakes are high. Pointing out that presidential decisions affect the entire federal budget, Beal valued the President's time at $100,000 per second.

Above: Richard S. Beal (left) of the White House staff and W. Michael Blumenthal of Burroughs were featured speakers at NCC '81 plenary sessions.

Right: C. A. R. Hoare, recipient of the 1981 Harry Goode Memorial Award, was honored at Tuesday's plenary session. AFIPS President J. Ralph Leatherman (far right) of Hughes Tool Company presented the award, accepted for Hoare by Carl Hammer of Sperry Univac. Hoare, a professor of computation at Oxford University, was recognized for "his pioneering work in the formal semantics of programming languages to aid in the proof of correctness of programs, his contributions towards applying formal discipline to the program development process, and his deep insight into the process of programming language design, which has been invaluable to designers of a wide range of 'structured' programming languages."

"New protectionism" restricting transborder data flow

Worldwide protectionist legislation is threatening the free flow of data across national boundaries, W. Michael Blumenthal, chairman of Burroughs Corporation, warned in his NCC plenary session address Wednesday, May 6, in Chicago. Seven European nations have already enacted data protection and privacy laws that restrict transborder data flow, he noted, and similar statutes are under consideration in a dozen other countries.

To counter this trend, Blumenthal called for the establishment of an intracyber clearinghouse to monitor, compile, and disseminate information on proposed and enacted TDF legislation throughout the world. "The question," he said, "is whether we will develop this industry... according to the rules of the marketplace, or whether we will develop along the lines of individual national rules."

One of the major problems, according to Blumenthal, is the lack of agreement even in defining the issues involved in TDF. In the United States privacy has traditionally been defined in a rather narrow context pertaining primarily to the individual. Many other countries that he cited have used broad definitions to include commercial and economic considerations. Norway, Austria, Denmark, and Luxembourg, for example, have extended privacy protection to the commercial and financial activities of business corporations.

Even the less developed, non-industrial countries, fearing what Blumenthal described as "electronic colonialism" and "electronic imperialism," have begun to advocate increased control over information gathered within their borders.

Although Blumenthal feels that American corporations can do much to "assuage the concerns that many national governments may have" by "being alert to the opportunities to create partnerships," he also noted a role for the US government. "We do need some help," he admitted, calling for relaxation of federal anti-trust legislation and increased support for research and development.

But he left his audience with a warning, "Above all," Blumenthal concluded, "we must not succumb to the temptation of falling into protectionism ourselves. We have nothing to fear if we organize ourselves right, if we roll up our sleeves, and if we go to work."
Industry is beginning to apply artificial intelligence methods according to NCC panel

Ware Myers
Contributing Editor

"The time is ripe to speculate on applications of artificial intelligence in industry," N. S. Sridharan of Rutgers University said Wednesday, May 6, at NCC '81, introducing a panel of researchers who have been involved in setting up artificial-intelligence groups in industry.

The panel included Peter E. Hart, Fairchild Camera and Instrument, Palo Alto; Tom Kehler, Texas Instruments, Dallas; David Barstow, Schlumberger-Doll Research Center, Ridgefield, Connecticut; and Mark S. Fox, whose intelligent systems group at Carnegie-Mellon University is supported by Westinghouse, DEC, and other companies.

The increased participation by industry does not rest upon a single circumstance, Sridharan said. Rather it depends upon understanding how to achieve high performance in artificial-intelligence programs; it bases itself also upon a collection of extant high-performance programs; and it works through a clearer understanding of how to select and define tasks for which the methods of artificial intelligence promise to give good results.

In addition, Sridharan continued, there has been a shift in emphasis since the 1970's. Practitioners now tend to sacrifice generality and to focus their work on narrower areas. In this way they achieve better performance on tasks of interest.

As a basis for the discussion of applications, Sridharan identified three areas as mainstream activities in artificial intelligence. One is expert systems—here the knowledge engineer acquires a body of reasoning practices from the subject-matter expert and develops it into a set of rules that can be programmed. Then, given data defining a specific instance of the subject matter, the program reaches judgments comparable to those of the human expert.

Interaction between the program and the expert is often conducted in a simple subset of natural language—a subset pertinent to the particular subject matter. Researchers who try to communicate with the computer in very general English haven't had much luck. On the contrary, progress in the last decade has been made in specific task areas. A fairly large amount of communication in dialog form has been achieved.

The third area relates to the planning of a sequence of actions leading to stated goals. The newer planning algorithms build plans hierarchically, thus allowing greater complexity to be achieved. Such planning systems can themselves be aided by expert advice, i.e., they can be guided by rule sets on strategies and choices to pursue. Sridharan mentioned an "interesting" new paradigm in which an initial plan is formulated without being too concerned about whether it is completely right or wrong in detail; subsequently it is corrected incrementally as further information becomes available.

There are at least two motivating factors, according to Kehler, that will sustain long-term involvement by industry in developing artificial-intelligence applications. One is the need for easy-to-use means for accessing complex systems. With the proliferation of systems at various levels of complexity, Kehler believes that the need to comprehend this problem will increase rapidly in the next few years. One solution is to relate to complex systems on two levels—an entry level for learners and an advanced level for expert users. Rather than limit system capability to a simple, entry level, Kehler prefers a system with complete functionality that can be divided into levels appropriate to different classes of users.

A second factor motivating industry is the scarcity of human experts in many difficult fields, such as seismic interpretation, software development, and the diagnosis and maintenance of complex systems. Knowledge-based expert systems can supplement—often interactively—these scarce talents.

In fact, the scarcity of geologists experienced in the interpretation of borehole data is one of the factors that led Schlumberger to an interest in artificial intelligence. This world-wide company has long been engaged in the measurement and interpretation of data obtained by lowering instruments into bore holes for oil industry clients. To make a symbolic interpretation of such data, e.g., describing the geological history of a region, takes highly skilled geologists. Instrument data cannot do this. "There may be only a half a dozen people for particular kinds of readings throughout the whole world," Barstow said. If some of this expertise could be captured by an artificial-intelligence system and the system used interactively by the scarce experts, Schlumberger would be in a position to offer geological interpretation more widely. First, however, the artificial-intelligence group tried a simpler application.

It developed an expert system to label the features of a gamma ray spectrum, this being one of the outputs of the instruments the company uses. Each peak represents a particular isotope. The experimental system's performance turned out to be comparable to that of the experts.

The next project was the dip meter advisor. A dip meter measures the inclination of the strata around a bore hole, information that is valuable to a geologist trying to put together the bigger picture. The group has a prototype running, although it does not embrace as yet all the skill of the human experts. It does make symbolic interpretations, i.e., it puts out results in terms the geologists use, such as fault, strike, deposition. The system employs the standard rule-based paradigm. The rules are written in Lisp. A DEC 20 does the symbolic inference and a VAX runs the graphics interface.

The Schlumberger group's next system, called the lithofacies advisor, breaks down the depositional environment into zones. It uses object-oriented programming technology.

Several of the panelists reported an interest in expert systems for software development, but have done little actual work as yet. Of course, such a project is extremely complicated. Barstow's target for analysis, for example, is typically a 200-page Fortran program, organized in some 30 modules. One of the issues to be explored is—Why did the design process wind up with this particular breakdown?

Other projects include one by Sridharan's group on the application of artificial-intelligence methodology to corporate tax law. Fox's group is in the early stages of applying the methodology to the development of systems for operating several Westinghouse factories.

Houston to host the 1982 NCC

Next year's National Computer Conference is scheduled for June 7-10 in Houston's Astrohall, touted as "America's largest one-level, air-conditioned convention facility." Its $50,000 square feet will help fulfill the ever-increasing demand for exhibit space at the country's oldest computer conference.

Preliminary plans called for NCC '82 to be held in New York City. However, adequate and effective space is not available there at this time.

The NCC is sponsored by AFIPS in cooperation with four of its constituent societies: ACM, DPMA, the IEEE Computer Society, and SCS.
No more “unique software,” warns Osborne, PC keynoter

Darlene Lister
Assistant Editor

"Today the industry is spending a fortune developing software that is unique," said Adam Osborne of Osborne/McGraw-Hill in his keynote address May 5 at the Personal Computing Festival. People in the industry have "turned their backs totally on the concepts that made this industry happen in the first place." What "made this industry happen," Osborne went on to say, was the central concept of interchangeable hardware and interchangeable software that emerged during the early days.

In discussing "what went wrong" and "why it's going to change," Osborne pinpointed four crucial changes for the microcomputer industry—the advent of micros that are so low-priced they successfully compete with typewriters and profoundly impact white-collar jobs, the separation of the hardware and software industries to achieve the true economics of volume, the rise of common software written for use on a wide variety of micros, and the production of industry-standard machines.

Direction within the industry shifted when those who knew how to successfully run businesses entered the field—Apple, Radio Shack, and Commodore, for example. While they began with the concept of machines with interchangeable parts, they went on to make each system have "all the failings of the minicomputer"—that is, "unique." Although the Pet, Apple, and Atari use the 6502 microprocessor, they do not use common software. Currently, the prices for microcomputers are rising as micros compete with minis for a diminishing slice of consumer sales.

The challenge for the future, Osborne said, is producing lower-cost machines. The industry will survive only through consumer economics and consumer volume. To do this, there can be no more "unique software." He hardware and software industries must separate entirely. Software must be written for use on a variety of micros. Hardware companies must build industry-standard machines. Only in this way, foresees Osborne, will the microcomputer industry achieve the true economics of volume.

"Those people who say it can't be done have a couple years to do it or go into some other line of business," said Osborne. "Because it can be done. If we [the US] don't do it, the Japanese will, or someone else. If we choose to be inefficient, we must suffer the consequences."

"If foreign competition succeeds," Osborne concluded, "we have nobody to blame but ourselves. In this country, we can produce products that are just as cost-effective and just as low-priced—if we think differently." Low-priced micros will definitely exist within the next decade; the only variable is who will control the world market.

These low-priced micros will profoundly impact white-collar jobs. Currently, word processing accounts for only 1.4 percent of the cost of white-collar jobs. Managers and supervisors drawing the larger salaries continue "in the same gross inefficiencies." Rather than learn a skill that employees earning one-third the salary have mastered, managers continue to write letters by hand or dictate them for someone else to type. These inefficiencies will end, Osborne said, with the advent of the low-cost micros.

Within the next decade, 90 percent of a company's white-collar employees will be telecommuting, he predicted. White-collar workers will have to start working with computers "just as gardeners learn to work with spades."

Today, he asserted, "the average white-collar worker has the choice of doing it now, doing it soon, or getting a real estate license."

Adam Osborne (left) of Osborne/McGraw-Hill delivered the keynote speech on new directions for personal computers during the NCC Personal Computing Festival. Sam Papa (right) of Data Forms, Inc., served as general chairman, while James Gerdes (not shown) of the Argonne National Laboratory coordinated the 35 program sessions and served as vice-chairman of the steering committee.

From among the more than 20 festival demonstrations, Carolyn Johnson (above), wife of Daniel Johnson of Pro Systems, Inc., Zion, Illinois, discusses the use of personal computers in small manufacturing operations and Terry Jackson (below) of Lombard, Illinois, demonstrates and explains a speech recognition system.

July 1981
Conference Report:  
14th Annual Simulation Symposium

R. M. Huhn  
Harris Corporation

Presentations of the Ira Kay Research Grant in Simulation, the Best Paper award, and a meritorious service award highlighted the 14th Annual Simulation Symposium held March 18-20 in Tampa, Florida.

Sixteen papers were presented this year, following the symposium's popular format of nonconcurrent presentation. The longest running symposium dedicated to computer simulation, the annual event is jointly sponsored by the IEEE Computer Society, ACM, and the Society for Computer Simulation.

Awards. The $4000 Ira Kay Research Grant in Simulation was awarded to John Craig Comfort of Florida International University for research on the design of a microprocessor-based simulation computer. Comfort will present the results of his research at the 15th Annual Simulation Symposium to be held next March. The Best Paper award, which included a $500 check, was presented to Barry Billman, Darrell Spracklin, and Jacob Thomas for "Application of Fast-Time Discrete Simulation Techniques in Evaluating Aircraft Collision Avoidance Algorithms."

Officers. Philip N. Adams of Armco, Inc., the outgoing president, received an award for meritorious service to the symposium. The following new officers were announced: R. Dyart Conine of TRW, president; Victor P. Boyd of the US Postal Service, vice-president; and Ronald M. Huhn of Harris Corporation, secretary/treasurer.

Papers presented. Opening the symposium with a paper entitled "A Simulation Model of the Micronet Computer System During Join Processing," Joseph D. Brownsmith of the University of Florida presented a simulation model of a microcomputer network for managing distributed relational data bases. The simulation was implemented using the IPSS simulation language to study the queuing and resource utilization of this system during the processing of a relational join operation.

The availability of inexpensive, sophisticated microprocessors gives the computer system designer great flexibility in assigning simulation processes to independent computing elements. In "The Simulation of a Microprocessor-Based Event Set Processor," John Craig Comfort investigated the feasibility of assigning the discrete simulation functions of event set manipulation to a separate microprocessing element. A simulation model was constructed, contrasting the performance of a stand-alone computer system with that of a system using the same central processor and an independent event set processor.

Raymond M. Bryant of the University of Wisconsin-Madison presented "Micro-Simpas: A Microprocessor-Based Simulation Language," a paper based on work sponsored by an earlier research grant from the symposium. His goal was to explore the use of a microprocessor as a host computer for a simulation language. Bryant created Micro-Simpas, a version of Simpas, to run on a Terak 8510/a microprocessor. He concluded that while microprocessor software systems are sufficiently powerful to support simulation languages such as Simpas, the hardware is not yet fast enough to make these systems practical.

The authors of "Modeling a Production System in a Recessionary Environment," Edward Lai and Donald Schat of General Motors, began a simulation effort to analyze how to introduce a modern material handling system into an existing facility to volume produce 25,000 computer systems a day. The simulation model developed in GPSS provided the ability to detect production capacity and storage problems. A recessionary environment caused severe cutbacks in production, and the simulation was used to determine an optimal cost-saving production plan.

In "An Automated Procedure for Developing Hybrid Computer Simulations of Turbofan Engines," John R. Szuch, Susan M. Krosel, and William M. Brunton of the NASA Lewis Research Center presented a systematic, computer-aided, self-documenting methodology for developing hybrid computer simulations of turbofan engines. The paper described an application and compared it to actual test data.

James O. Henriksen of Wolverine Software gave a presentation on new developments in GPSS for improving simulation analysis. Since all simulation languages are actively being improved, he warned, anyone who has not kept up with developments in the last few years is out of date. Summarizing the current status of GPSS/H, Henriksen gave insight into new capabilities soon to be offered.

In a presentation on new developments for improving simulation analysis, Allen B. Prisner of Prisner & Associates provided an overview of the basics of Slam and described the added features of Slam II. He also described how SDL, Aid, and Simgraph inter-relate with Slam.

The fielding of electronic equipment must consider what kind of test and support equipment is required for maintenance. The relocation of common test equipment to special designated repair sites and the development of more universal automatic test equipment to support a broader range of operating systems have received considerable attention. In "Simulation Model to Evaluate Operational System Performance and Repair Shop Workloads at a Navy Field Site," James T. Newell of the Naval Training Equipment Center described a simulation model which can be used to evaluate system performance with different maintenance support concepts.

Win-Yeu Winnie Chen presented "On the Evaluation of the Quality of Several Combinations of Unit Uniform Random Numbers Generators and Unit Normal Transformation Algorithms," a paper coauthored by Roger L. Burford, both of Louisiana State University. Chen reported on one phase of her doctoral research which was concerned with evaluation of the goodness of fit and randomness of unit normal variates generated from combinations of several uniform generators and nonstandard transformation algorithms.

In "Application of Fast-Time Discrete Simulation Techniques in Evaluating Aircraft Collision Avoidance System," Barry R. Billman of the FFA, Darrell Spracklin of Computer Sciences Corporation, and Jacob Thomas of Burroughs Corporation described a discrete simulation system which provides a test bed to analyze and verify air traffic control separation assurance algorithms. The interactive system supported the evaluation of the Active Beacon Collision Avoidance System.

Controlling insect populations is an important means of improving human welfare because it results in increased food production and a decrease in infectious disease. The economic loss due to insects in US agriculture alone is estimated to be at least 20 billion dollars annually. The purpose of "Application of Discrete System Simulation to Insect Population Dynamics" by Tuncay T. Saydam, David E. Lamb, and Marc R. Halley of the University of Delaware was
to determine the optimum time to apply insecticide to reduce destructive pest stages. Although most simulation studies of this nature use continuous simulation techniques, this study utilized discrete simulation to reduce computational complexity and to take advantage of waiting time distributions and scaling for widely varying populations.

In "The Use of Computer-Simulated Radiances to Retrieve Total Atmospheric Ozone Data from Satellite-Mounted Infrared Multifilter Radiometers," Patrick P. Weidhaas of Lawrence Livermore Laboratory discussed modeling of the radiative transfer process in four MFR spectral channels to simulate radiances to build a linear regression model for total column ozone. The simulated data was validated with Dobson Spectrophotometer measurements. This enabled the Satellite Ozone Analysis Center to use a new source of data for collecting the global ozone data so important in analyzing potential threats to the ozone layer which protects us.

In "Hierarchical Modeling in Gasp," Lawrence L. Rose of Battelle-Columbus Laboratories described the design methodology and resulting implementation of a large-scale computer system simulation model. The theme of the effort was top-down system decomposition and implementation of a hierarchical simulation consisting of processes, tasks, functions, and hardware models that provided a direct relationship to the system.

In "A General Simulation Model for the Evaluation of Distributed Processing Systems," Paul J. Fortier and Richard G. Leary of the Naval Underwater Systems Center described a general discrete simulation model that will be used to evaluate the suitability of various distributed processing computer architectures for real-time control applications. The Gasp IV based simulation is part of an ongoing effort to develop tools for the evaluation and analysis of local computer networks.

Peter L. Haigh of the NCR Corporation discussed in "A Cost Effective Modeling Technique for Polling Systems" the problem of using detailed models for simulating the polling process when there is no information to be transferred. He described a method by which the computer run-time may be significantly reduced by replacing the polling function model with a formula to predict the polling wait-time.

The final presentation of the symposium, by William E. Priore of TRW Systems Group, was entitled "A General Purpose Data Processing System Simulator for Satellite Ground Stations."

Priorre described the problem of designing a system with 10 computer mainframes and thousands of software tasks in a complex real-time environment and a cost-effective solution. The DPSSGS, a generic model of multitasking computers and computer networks, provides a design tool for analyzing the many alternate computer configurations proposed in the design of a ground station.


Wesley Clark receives Eckert-Mauchly Award

Wesley Clark was awarded the 1981 Eckert-Mauchly Award on May 13, during the Eighth International Computer Architecture Symposium held in Minneapolis, Minnesota.

Jointly sponsored by ACM and the IEEE Computer Society, the award was presented in recognition of Clark's contributions to the industry, including the design of the first transistorized computer (the TX-0) and the Lincoln laboratory computer, both of which influenced the early history of the minicomputer; an early implementation of a multiple-instruction stream computer, the TX-2; and his innovative ideas and development efforts that led to a variety of advances and computers, including speed-independent building blocks (the macromodule), message-routing computers (the Imp in Arpanet), and directly addressable auxiliary memory (DECTape).

The award also recognized Clark's "technical leadership and standards of excellence in computer research, and innovations that have served to raise the level of achievement of the computer industry."

Award nominees sought

Nominations are due September 15 for the $35,000 Marconi International Fellowship to commission creative work in communications science or technology.

For more information, contact Dr. Walter Orr Roberts, Marconi International Fellowship Council, Aspen Institute for Humanistic Studies, 1229 University Ave., Boulder, CO 80302; (303) 443-1230.

New transactions announced

Four IEEE societies have formed a steering committee to establish and jointly sponsor an IEEE transactions for the scientist and engineer whose research involves generation, processing, or display of medical images. The IEEE Transactions on Medical Imaging—a joint publication of the IEEE Engineering in Medicine and Biology Society, the IEEE Nuclear and Plasma Sciences Society, the IEEE Group on Sonics and Ultrasonics, and the IEEE Acoustics, Speech, and Signal Processing Society—will focus on the unified common ground where instrumentation, systems, transducers, computing hardware and software, mathematics, and physics are handled together.

Research topics will include ultrasonics, x-ray imaging and tomography, nuclear iso6pe imaging systems, image processing by computers, microwaves and nuclear magnetic resonance imaging, radiation sensors and detectors, pattern recognition, and mathematical tools for and analysis of image formation, perception, and display. The steering committee is soliciting applications for associate editors and editorial board members. Applicants should submit a cover letter, curriculum vita, and listing of relevant publications by August 15 to Dr. Glenn Knoll, Dept. of Nuclear Engineering, 119 Cooley Bldg., University of Michigan, Ann Arbor, MI 48109; (313) 764-4260.

The IEEE Transactions on Medical Imaging will begin publication in early 1982 as a quarterly journal. Details regarding submission of manuscripts will be available this summer from Knoll.

Four tutorials precede Compcon Fall 81

Immediately preceding the IEEE Computer Society's Compcon Fall 81, four tutorials will be presented on Monday, September 14. Tutorials to be presented are "Productivity: A Systems Problem" by Alonzo Grace, "Software Design Techniques" by Peter Freeman, "Office Automation Systems" by Kenneth Therber, and "Database Management in the 80's" by Harvey Freeman.

Compcon Fall 81 will be held September 14-17, at the Capital Hilton Hotel, 16th and K Streets, Washington, DC. For further information, contact Compcon Fall 81, PO Box 639, Silver Spring, MD 20901; (301) 589-3386.