EDITOR'S PROFILE of this issue

from a historical perspective …

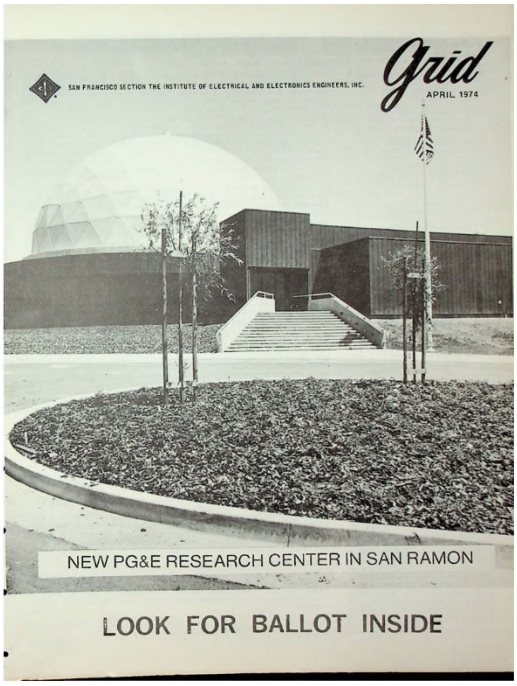
with Paul Wesling, SF Bay Area Council GRID editor (2004-2014)

April, 1974:

Cover: Shown is PG&E's new research center in San Ramon. More on page 5; tour details on page 7.

Page 2: Our Section has set up an employment-referral service for unemployed engineers.

Page 7: Bob Noyce, president of Intel, speaks on what's next in minicomputers and microcomputers.



Archive of available SF Bay Area GRID Magazines is at this location:
https://ethw.org/IEEE_San_Francisco_Bay_Area_Council_History

At time of scanning, the bound volumes are held by Paul Wesling. April, 2025 Contact p.wesling@ieee.org

SAN FRANCISCO SECTION THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Grid

APRIL 1974

NEW PG&E RESEARCH CENTER IN SAN RAMON

LOOK FOR BALLOT INSIDE

Grid

volume 20
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IT - CURRENT PROBLEMS IN NONPARAMETRIC DISCRIMINATION

A tutorial presentation of recent results in nonparametric discrimination will be given along with a discussion of important open questions. In particular, attention will be focused on nonparametric estimates of probability densities and on ways of estimating the probability of error for various discrimination procedures.

T.J. Wagner is currently a Visiting Associate Professor of Electrical Engineering at Stanford University. He received his Electrical Engineering degrees at the University of California at Berkeley where he was an Acting Assistant Professor in 1963. Since then he has been at the University of Texas where he is now an Associate Professor of Electrical Engineering. During this period he has had research leaves to M.I.T. and the IBM Thomas J. Watson Research Center. His current interests are in information theory and pattern recognition.

IEEE EMPLOYMENT - REFERRAL SERVICE - A PILOT PROJECT OF THE SAN FRANCISCO SECTION PAC

IEEE Employment-Referral Service

In the past, Mrs. Jean Helmke, Office Manager of the IEEE Palo Alto Office, has been helping job seeking IEEE members by advising them of job openings of she had become aware. Also, IEEE Section officers who frequently become aware of employment opportunities have been passing on this information to members on an informal basis. The Professional Activities Committee (PAC) has now been authorized by the San Francisco Section Executive Committee to provide a referral service, as a regular Section service. To that end, a clearing house for job opportunities in the Bay Area has been established on a trial basis at the San Francisco Section Office, IEEE, Suite 2210, 701 Welch Road, Palo Alto, California 94304, telephone (415) 327-6622. Mrs. Jean Helmke will handle the administrative aspects of this new service. Employers with job opportunities are encouraged to send all pertinent information to her office. IEEE members seeking employment can contact Mrs. Helmke or send their resumes including the IEEE membership number.

It is clear, that the detailed organization of an employment service depends greatly on the number of responses that have to be handled. At the present, no basis exists for estimating this figure. PAC will maintain a close contact with Mrs. Helmke to provide any necessary assistance in setting up procedures appropriate to the inquiry volume experienced.

General Scope of PAC Activities

The January GRID announced the formation of PAC as a standing committee of the San Francisco Section. The objectives and activities of the committee were stated only very briefly. The best description of the scope of the committee's work is probably the list of subjects that have been included for consideration as PAC activities:

1. Government Relations
2. Legislative Liaison
3. Engineering Employment Practices
4. Membership Employment
5. Surveys
6. Career Development
7. Manpower Planning
8. Technology Assessment
9. Social Implications of Technology
10. Public Relations
11. Professional Opportunities for Women

Members are encouraged to communicate to the committee any additional areas that should be included as possible candidates for PAC involvement. In this context it should be noted that the response to this column's monthly call for members wanting to contribute to PAC's efforts have gone largely unheeded. The response level has been approximately 100 ppm (= persons per million!) This figure is based on a response rate of one person per GRID publication out of a possible of 8400 (San Francisco Section membership)! While such a figure may be encouraging statistics for an air pollution count it is definitely disheartening as a membership response. We hope that this situation will improve as members become aware of the endeavors of PAC.

Planned Projects

The PAC columns of the last two GRID issues described a completed project "Young Engineer Survey San Francisco Section, IEEE" and an ongoing activity "Pension-Legislation Effort". Described below are some of the efforts that are presently in the planning stages.

Quick-Response Network

The objective of this task is to create a network of IEEE members that can on short notice disseminate information requiring a quick reaction such as pending legislation, hearings by state and federal agencies, meetings, etc. Discussions so far have centered on a "telephone tree" type approach that works on the chain-letter principle.

Employment Patent Agreements

This task would concern itself with surveying and evaluating the types of patent agreements that employees enter into when accepting employment. The results could be used to recomment standard patent-agreement practices similar to "Employment Practices Guidelines" recently endorsed by IEEE and some 20 other engineering societies.

(continued on page 5)

MEETING CALENDAR

AEROSPACE & ELECTRONIC SYSTEMS SOCIETY
APR. 18

Story on Page 8

TOUR OF HEWLETT-PACKARD PALO ALTO FACILITIES. Reservations mandatory. 30 persons maximum. ELECTION OF OFFICERS will take place before the tour.

APR. 18, Thursday, 6:30 PM. Meet at 1501 Page Mill Road. Call (415) 326-4350 x 4769 before April 15th. No dinner.

ANTENNAS & PROPAGATION SOCIETY
APR. 11

Story on Page 6

SOME RECENT ADVANCES IN ANTENNAS. Prof. C.H. "Buck" Walter, Ohio State University.

APR. 11, Thursday, 8:00 PM, LMSC Auditorium, 3251 Hanover St., Palo Alto, Bldg. 202. Cocktails at 5:30 and dinner at 6:15 PM at Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. No reservations required.

COMPUTER SOCIETY
APR. 10

Story on Page 7

JOINT MEETING WITH ACM. MICROCOMPUTERS, WHAT'S NEXT? Robert N. Noyce, Pres. Intel Corp., Santa Clara.

APR. 10, Wednesday, 8:00 PM, Rickey's Hyatt House, 4219 El Camino Real, Palo Alto. Cocktails at 6 and dinner at 7 PM. Price of dinner with reservations $7.00; without reservations $8.00. Reservations: Ed Resta (408) 257-6550 by Apr. 9th.

EAST BAY SS/GOLDEN GATE SS/POWER ENGINEERING SOCIETY
APR. 9

Story on Page 7

JOINT MEETING. TOUR - NEW PG&E ENGINEERING RESEARCH CENTER. NOTE: ELECTION OF EAST BAY SS OFFICERS FOR 1974-75 WILL TAKE PLACE AT THIS MEETING

APR. 9, Tuesday, 7:30 PM, 3400 Crow Canyon Road, San Ramon. No dinner - no reservations required.

ELECTROMAGNETIC COMPATIBILITY
APR. 16

Story on Page 8

WALSH FUNCTIONS AND EMC. Dr. Stan Fralick, SRI, Menlo Park.

APR. 16, Tuesday, 8:00 PM, Rickey's Hyatt House, 4219 El Camino, Palo Alto. Cocktails at 5:30 PM. Dinner at 6:30 PM. Reservations: Andrew Nalbandian, (408) 742-5336 by Apr. 15th.

ELECTRON DEVICES
APR. 16

Story on Page 6

APPLICATIONS OF MICROWAVE DEVICES IN EDUCATIONAL TELEVISION VIA SATELLITE. Art Fong and James Hall, Hewlett-Packard Co.

APR. 16, Tuesday, 8:00 PM, Bold Knight, 769 N. Mathilda, Sunnyvale. Reservations: Section office (415) 327-6622.

ENGINEERING MANAGEMENT
APR. 16

Story on Page 7

WHAT IS IEEE DOING FOR YOU? Einar E. Ingebretsen, Manager of Support Systems Engineering, LMSC, Sunnyvale. Region Six Director.

APR. 16, Tuesday, 8:00 PM, Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. Cocktails at 6 and dinner at 6:30 PM. Guests welcome. Reservations: Ms. Rosemary Hart (415) 493-5011 x 267 by Apr. 15th.

INDUSTRY APPLICATION SOCIETY
APR. 23

Story on Page 5

APPLICATION OF MOTOR CONTROL CENTERS TO SYSTEMS HAVING HIGH AVAILABLE FAULT CURRENTS. Gerald P. Kennedy, Engineering Mgr., General Control Div., Westinghouse, Chicago.

APR. 23, Tuesday, 7:30 PM, Four Seas Restaurant, 731 Grant Ave., S.F. Cocktails at 6 and dinner at 6:30 PM. Reservations: Ted Bubb (415) 981-6440 or Wes Fenner (415) 365-5920 by Apr. 22nd.

INFORMATION THEORY
APR. 15

Story on Page 2

CURRENT PROBLEMS IN NONPARAMETRIC DISCRIMINATION. T.J. Wagner, Associate Professor of EE, Univ. of Texas.

APR. 15, Monday, 8:30 PM, SRI Conference Room B, 333 Ravenswood Ave., Menlo Park. Dinner: Tia Maria, 4470 El Camino Real, Los Altos at 6:15 PM. Reservations: D. Wilson (415) 966-2595 or (415) 966-3286 by Apr. 15th.

MICROWAVE THEORY & TECHNIQUES
APR. 17

Story on Page 6

THE SATELLITE SOLAR POWER STATION WITH MICROWAVE TRANSMISSION TO EARTH. William C. Brown, Raytheon Co., Waltham, Mass.

APR. 17, Wednesday, 8:00 PM, SRI, Bldg. 44 (Laurel St. entrance), Menlo Park. No dinner.

NUCLEAR & PLASMA SCIENCES
APR. 16

Story on Page 5

SOLAR ENERGY FUTURE POTENTIAL AND PRESENT STATUS. Dr. Mike Wahlig, Lawrence Berkeley Laboratory.

APR. 16, Tuesday, 7:00 PM, Auditorium, Stanford Linear Accelerator. Enter Sand Hill Road, Stanford, Calif. No dinner.

SANTA CLARA VALLEY SUBSECTION
APR. 16

Story on Page 5

RAP SESSION WITH STUDENTS FROM STANFORD, SANTA CLARA UNIV., SAN JOSE UNIVERSITY AND FOOTHILL COLLEGE. Bob Martin, Pacific Telephone, Moderator.

PM, Foothill College, Physics Bldg. P-4, ad- Lot B.

Story on Page 7

TALKING WITH A COMPUTER IN ENGLISH. Prof. Terry Winograd, Stanford University.

PM, SRI Conference Room B, 333 Ravens- ner: 6:15 PM, Red Cottage, 1706 El Camino, Section office (415) 327-6622.

TO ALL VOTING MEMBERS OF THE SAN FRANCISCO SECTION, IEEE:

Please complete the attached ballot for your 1974-75 Section Officers, and answer the three questions shown at the bottom of the ballot. Mail before May 15, 1974. All IEEE members other than Student Grade are entitled to vote, and are urged to do so.

TO ENCOURAGE YOUR VOTE, THE RETURN BALLOT IS PREPAID.

R SYSTEM CONTROL

Polytechnic State University
May 16-17, 1974
ofessional Workshop

Special rate to sponsors of ver Institute. For information: Goldberg, Director, Electric tute, Calif. Polytechnic State uis Obispo, CA 93407. Tele- 5) 546-2315

1973 - 1974 San Francisco Section Nominees

ED JACKSON FOR CHAIRMAN Present Vice Chairman, served in U.S. Navy as an electronics technician in WWII and in the Korean War. Between wars, he attended UC, Berkeley. He joined the Bell System in 1952 and is currently employed as a staff engineer heading a group in exchange switching, planning and construction program management for the Southern Division of Pacific Telephone Company. He was active in EBSS for four years, and advanced to Senior Member in 1969, and became active in the Section, serving two terms as Group Chapter Coordinator.

RONALD J. WHITTIER FOR VICE CHAIRMAN Present Secretary. Chairman of the SF Chapter of the Electron Devices Group in 1970-71. Received Ph.D. degree from Stanford University in 1965, after which he joined Fairchild Camera & Instruments Corporation's Research and Development Laboratories, where he was involved in investigations of high current effects and noise in semiconductor devices. He joined Intel Corp. in 1970 where he currently directs new technology development activities.

RICHARD W. ANDERSON FOR SECRETARY Present Treasurer. A graduate of Utah State University with a MS from Stanford. Joined Hewlett-Packard in 1959 as a design engineer. In 1965 he was made an engineering section manager of HP's Microwave Division. In 1968 promoted to Engineering Manager for the Santa Clara Division; in 1971 was named General Manager for the Automatic Measurement Division. He has served as SF Chapter Chairman of the Microwave Theory & Techniques Group and is at present a member of the administrative committee on the IM Group.

BRYAN R. BAARTS FOR TREASURER BSEE degree from Stanford University. Served 2 years as Cognizant Engineer in the Systems Test Division, U.S. Army Missile Test and Evaluation Directorate at White Sands Missile Range. Past Chairman of IEEE Golden Gate Subsection. Participated in survey of young engineers. Presently Chairman of Professional Development Committee in the IEEE Power Engineering Society. Served as Chairman of Hotel and Meeting Facilities Committee in the PES 1972 Summer Meeting and was reappointed for 1975. Employed as an engineer for Pacific Gas & Electric Co. working in project co-ordination and transmission substation design.

D. THOMAS MAGILL FOR TREASURER Program Manager, Telecommunications Dept., Stanford Research Institute. Position covers bandwidth compression of speech signals for digital transmission applications. Past Chairman of Information Theory Chapter. Group Coordinator for the Section in 1971-72 and 1972-73. Co-chairman of the Professional Program Committee for 1973 WESCON. Presently Chairman of Ad Hoc committee on Education for Section members. Received BSEE from Princeton and Ph.D. from Stanford University.

JOHN B. DAMONTE FOR SECTION DIRECTOR Manager, Antenna Systems Division, Lockheed M & S Co., Sunnyvale. Received BS degree in 1948 and Masters degree in 1962 from University of California in Berkeley. Was given a Certificate in Management from Santa Clara University. Was Chairman of the Section in 1969-70, President of Antennas & Propagation Society in 1972 and Chairman for Region 6 Central Area in 1973. Currently is on the ADCOM of Antennas & Propagation Society, and the IEEE National Awards Committee. Is Chairman of the 1977 URSI/-APS Symposium.

WILLIAM W. RAUKKO FOR PROFESSIONAL ACTIVITIES COMMITTEE CHAIRMAN The candidate is a graduate of the Johns Hopkins University, BES 1964, and Lehigh University, MSEE 1965. Since graduation, he has worked in the area of microwave design and is currently a development engineer with Hewlett-Packard Company, Palo Alto, California. He is a founding member of the Professional Activities Committee of the San Francisco Section and has served as secretary since the committee's first meeting in 1972. Other PAC activities include serving on the Young Engineers Survey Subcommittee and presentation of the results of the survey achnical areas that will result in career related gains for IEEE members. He is a member of the Microwave Theory and Techniques Society and the Engineering Management Society.

Survey of EE Engineering Employment Level in the Bay Area

It is felt that continuous monitoring of the EE engineering employment level would be a desirable goal. Ideas advanced to accomplish this have included the periodic use of the "bingo cards" of the IEEE SPECTRUM to indicate the employment status of the membership or the use of periodic questionaires in GRID. Descriptors of the employment status could include: employed, under-employed, employed in field other than that of primary competence, and unemployed. This type of survey would, of course, only provide data about the IEEE membership rather than all EE engineers.

Call for Action

Members are encouraged to bring the availability of the employment referral service described above to the attention of their personnel departments.

Members who want to go beyond the call of duty and would like to join the PAC roster or would like to contribute to the committees efforts, should contact the undersigned, (415) 364-6759, or the Palo Alto Office.

Hermann F. Schmid, Chairman,
Public Relations Subcomittee,
PAC, San Francisco Section

NPSS - SOLAR ENERGY FUTURE POTENTIAL AND PRESENT STATUS

Solar energy has "forever" been the dominant force in the evolution of the planet Earth. Man has developed the need for conveniently packaged energy sources and has, with some ingenuity, found them from relatively local sources.

We are each aware of the crisis that has developed as man's "needs" have grown to the point where our conventional energy resources can no longer satisfy them. We are also aware of the efforts going into the development of atomic energy sources. But questions of distribution, safety, and environmental effects, in addition to the basic research still required, indicate that these "unexpendable" atomic energy sources are apt to be a little late for our immediate problem.

Dr. Mike Wahlig is the principal investigator in a research program into practical applications of solar energy at the Lawrence Berkeley Laboratory. He has studied the possibility of a "return" to solar energy as an achievable solution to our energy needs, and has some fairly definate feelings about the potential for this, also unexpendable, energy source in many practical ways for the long term.

IAS - APPLICATION OF MOTOR CONTROL CENTERS TO SYSTEMS HAVING HIGH AVAILABLE FAULT CURRENTS

The development of modern distribution systems having higher KVA ratings with larger available fault currents requires that special considerations be given to methods that will reduce the available fault current at the motor control center. In order to properly coordinate equipment in motor control centers for the available fault current, it is necessary to know and understand the standards of NEMA, ANSI, UL, NEC and OSHA that apply.

Means of current limiting in the control center itself include current-limiting reactors, circuit breakers with current limiters (bolt-on or integral) and current-limiting fuses. Each of these methods has inherent advantages and disadvantages which will be explored in each case.

Mr. Gerald P. Kennedy graduated BSEE from Drexel Institute of Technology, Philadelphia. He has been with Westinghouse for 25 years and is presently Engineering Manager, Motor Control Center, General Control Division, Chicago. Mr. Kennedy is a member of NEMA Subcommittee No. 12, Chairman of NEMA Task Force for Seismic Testing of Motor Control Centers, and an alternate member of ANSI Committee 41 on Control Instrumentation and Electrical Systems for Nuclear Power Generating Stations. Mr. Kennedy has been responsible for the development of a Computer Design of MCC's now being used by Westinghouse.

SCVSS-- "WHAT EVERY YOUNG ENGINEER WANTED TO KNOW, BUT WAS AFRAID TO ASK"

Foothill College - Tuesday April 16, 7:30 PM. Physics building, Room P-4. Adjacent to the Planetarium. Visitors use parking lot B.

Electrical Engineering students from Stanford, Santa Clara, San Jose State and Foothill College plan to meet with members of the Santa Clara Valley IEEE Subsection at Foothill College on Tuesday April 16, 1974, to discuss their future.

What can the young engineer expect in his first year in industry? What are the job opportunities? Where do we go from here? Questions such as these are expected, and a panel will supply the answers.

The panel will consist of: Phil Simpson, Pacific Telephone, recent graduate of Georgia Institute of Technology: John Kirkland, FMC Corporation: and Bob Martin, Pacific Telephone.

The panel will consist of: Phil Simpson, Pacific Telephone, recent graduate of Georgia Institute of Technology; John Kirkland, FMC Corporation; and Bob Martin, Pacific Telephone, who will act as moderator.

THE COVER STORY

This is not a new neighborhood theatre, but part of the new PG&E Research Center at San Ramon. In April it is the scene of a tour by the East Bay and Golden Gate Subsections, and the Power Engineering Society. Centrally located in the Livermore, Castro Valley area, it also provides meeting facilities for other G/S.

APS — RECENT ADVANCES IN ANTENNAS

Contrary to the opinion of some, antenna development is not dying; it is very much alive. This talk will go into some of the most active areas. Some recent versions of small loops and dipoles will be described, as well as ways of measuring the efficiency of a small antenna. The talk will discuss briefly features of and recent results from the Method of Moments and the Geometrical Theory of Diffraction, and a short film will be shown the illustrates the use of GTD for analyzing antennas on aircraft. Adaptive Arrays are adding a new dimension to antenna performance. The basic concept will be described and present activity summarized.

Professor C.H. "Buck" Walter, of Ohio State, has been active locally and nationally in AP-S, and is currently president of AP-S AdCom. He is the author of the book "Traveling Wave Antennas", published by McGraw-Hill in 1965 and by Dover in 1970.

MICROWAVES FOR A BETTER WORLD

ED - APPLICATIONS OF MICROWAVE DEVICES IN EDUCATIONAL TELEVISION VIA SATELLITE

Art Fong and James Hall of Hewlett-Packard will discuss applications of microwave devices and hybrid IC technology in the educational television receivers. The educational television transmission via satellite is a rapidly growing field which may provide a large potential market for the microwave transistors, mixers, GaAs FET's and other forms of devices. These authors will discuss the present 2.6 GHz receiver system and speculate on the device requirements for the future higher frequency receivers.

EM - WHAT IS IEEE DOING FOR YOU?

IEEE presently has a roster of 160,000 members throughout the world. The successful management of such a large number of people is quite a challenge especially now when pension plans, urbanization problems, and all kinds of "shortages" are on the minds of each member.

Mr. Einar E. Ingebretsen, Director of Region 6 of IEEE and Manager of Support Systems Engineering at Lockheed Missiles and Space Company in Sunnyvale, will discuss these topics in relation to "What IEEE Is Doing For You".

In particular he will cover the following subjects:

- Involvement of IEEE in present and future trends, such as general pension plans, etc;
- Organizational setup of IEEE;
- Management structure of IEEE as a whole and its subgroups;
- Interaction between the various facets of IEEE;
- Current management problems of the 160,000 member organization with a truly international focus.

In his capacity as Director of Region 6, Mr. Ingebresten is especially qualified to give a very thorough and unique insight into the management of IEEE as well as the multifaceted benefits that IEEE can offer to each member.

Mr. Ingebretsen began his career in electronics when he joined Collins Radio Company in 1951. In 1961 he joined Lockheed Missiles and Space Company as Manager of Launch Systems Engineering. He is currently responsible for the Ground Support Equipment for all satellite and space vehicles in the Space Systems Division. Mr. Ingebretsen's IEEE activities are numerous: he started in 1957/58 as the Vice Chairman of the San Fernando Subsection. From that time on he has served on various committees and in other subsections. Presently he is Director of Region 6.

CONFERENCE ON MAGNETISM AND MAGNETIC MATERIALS

Call for Papers

San Francisco ----- December 3-6, 1974 Deadline for papers, Friday Aug. 16, 1974. To be prepared exactly according to instructions, to Dr. Hugh C. Wolfe, Amer. Inst. of Physics, 335 East 45th Street, New York, N.Y. 10017.

Information: Local Committee Chairman, K. Lee, IBM Research Laboratory, Monterey and Cottle Roads, San Jose, Calif. 95193

MTT-SATELLITE SOLAR POWER STATION WITH MICROWAVE TRANSMISSION TO EARTH

A solar photovoltaic cell array in geosynchronous equatorial orbit is in direct sunlight for over 99% of the time. It has a fixed position with respect to the earth so that a microwave beam may be used to continually transfer the power of a location on the earth's surface. The microwave energy then may be converted back into ordinary electrical power to meet the base-load requirements of a rapidly expanding national need for electrical power.

The speaker, William C. Brown, has been with Raytheon since 1940, where he has contributed many innovations to microwave tube technology. He obtained a BSEE degree at Iowa State University, and MS at Massachusetts Institute of Technology. Recently his attention has been devoted to the improvement of the overall efficiency of microwave power transmission.

PHP - IEEE TRANSACTIONS

Call for Papers

December 1974 issue of IEEE Transactions on Parts Hybrids and Packaging will be devoted to materials. Use Author's Guide and submit 4 copies by May 1, 1974 to Dr. David F. Barbe, Code 5214, Naval Research Laboratory, Washington, D.C. 20375

ENGINEERS AS EXPERT WITNESSES

University of California Extension
55 Laguna Street, San Francisco
One day Seminar,Fee $65
Saturday May 4, 9 AM to 4:30 PM

Information: Continuing Education in Engineering, UC Extension, 2223 Fulton Street, Berkeley, Calif. 94720 Phone (415) 642-4151

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BALLOT FOR ELECTION OF OFFICERS, SF SECTION, 1974-75

(See background of candidates in this issue)

CHAIRMAN: E. D. Jackson, Pacific Telephone ☐

_____ ☐

VICE CHAIRMAN: R. J. Whittier, Intel Corp. ☐

_____ ☐

SECRETARY: R. W. Anderson, Hewlett-Packard Co. ☐

_____ ☐

TREASURER: (vote for one) B. R. Baarts, PG&E Co. ☐
D. T. Magill, SRI ☐

_____ ☐

DIRECTOR: J. B. Damonte, Lockheed M & S Co. ☐

_____ ☐

PAC CHAIRMAN: W. W. Raukko, Hewlett-Packard Co. ☐

_____ ☐

Please answer the following:

1. Are you generally satisfied with the leadership provided at the section level?
2. Do you know how to contact your Section Officers?
3. Does the reporting in the GRID keep you adequately informed on local matters?

Yes ☐ No ☐

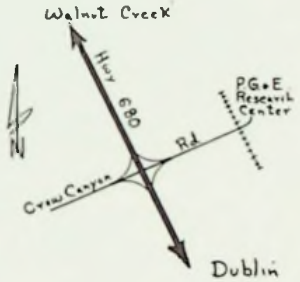
JOINT MEETING EBSS-POWER SOCIETY-GGSS TOUR-PGE ENGINEERING RESEARCH CENTER

PG&E has recently completed a new $4.5 million Research Center at San Ramon replacing outgrown facilities at Emeryville. The new Center includes a combined laboratory and administration building to which is attached an aluminum-domed, geodesic structure to be used for HV and UHV electrical test work through 1050 KV.

Specialists at the Research Center can conduct research projects ranging from study of problems in EHV transmission and environmental studies to material testing and nuclear radiation measurement.

The Research Center will be open to a joint meeting of the East Bay Subsection, Golden Gate Subsection and Power Engineering Society on the evening of April 9, 1974. The tour starts at 7:30 p.m. in the Administration Building, east end of Crow Canyon Road, San Ramon. Guests welcome.

See map below for directions, or call Jerry Parker, 835-8500 — Ext. 327.



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SMC - TALKING WITH A COMPUTER IN ENGLISH

One of the most exciting areas of artificial intelligence research concerns the problem of natural language comminication with computers. A breakthrough in this area could have revolutionary impact by allowing laymen direct access to computers. The Systems, Man, and Cybernetics group is fortunate to have as its April speaker Professor Terry Winograd of Stanford University, one of the world's foremost researchers in this fledgling field.

Dr. Winograd will outline the fundamental problems involved in language understanding and will describe, with the aid of a film, a particular system that allows a human to converse in English with a simulated robot. His talk will conclude with a critical survey of current work. Terry Winograd received his doctorate in applied mathematics from MIT while associated with the Artificial Intelligence Laboratory there.

C AND ACM - MINICOMPUTER'S, WHAT'S NEXT

Transistors and integrated circuits have progressed from the barely adequate to the abundantly adequate for high volume applications. Large scale integrated circuits are progressing through the same sequence. The microcomputer is the first of the circuits beyond memory adequate for high volume applications. A new element, software, has been added for the mircocomputer but the objective is the same rapid flexible design capability.

continued

Dr. Robert Noyce received his B.A. degree and Phi Beta Kappa at Grinnell College in 1949, and his Ph.D. degree in Physical Electronics at Massachusetts Institute of Technology in 1953.

He was one of the founders of Fairchild Semiconductor in 1957. In July of 1968, he cofounded Intel Corporation with the objective of making large scale integrated circuits a reality. Dr. Noyce holds sixteen patents on semiconductor devices, methods and structures.

Note: This is a dinner meeting at a location other than the usual. Reservations are important. See calendar for details.

UC BERKELEY EXTENSION

Energy: Resources, Conversion and Utilization

An intensive five-day course, "Energy: Resources, Conversion and Utilization," will be given June 17 to 21, 1974 at the University of California at Berkeley under joint sponsorship of the UC College of Engineering and Continuing Education in Engineering, UC Extension. Some of the university's top engineering faculty and scientists from the Lawrence Berkeley and Livermore laboratories will make up the roster of speakers, headed by Allan J. Lichtenberg, professor of electrical engineering and computer sciences at Berkeley and a recognized authority of plasma fusion.

Two panel sessions will be held, one taking a critical look at past and present energy policies and discussing future responses, the other surveying global and U.S. energy needs and the implications for a steady-state economy.

The course fee is $300 and advance registration is required. Further details may be obtained from Continuing Education in Engineering, University of California Extension, Berkeley, CA 94720; phone (415) 642-4151.

1974 IEEE INTERNATIONAL SYMPOSIUM ON CIRCUITS & SYSTEMS (ISCAS/74)

IEEE members and non-members from other disciplines are invited to register.

Sir Francis Drake Hotel, San Francisco
April 22-25, 1974

The IEEE International Symposium on Circuits & Systems (ISCAS) is an annual international conference sponsored by the IEEE Circuits & Systems Society. This year's symposium, the seventh in the series, will be held in San Francisco.

Features will include:

Three and one half days of Technical Sessions, including 18 regular sessions and 10 special invited sessions.

Three one-day short courses.

Panel discussion on "New Directions and Policies of the IEEE Transactions on Circuits and Systems."

Symposium Colloquium on "Application of Lie Group Theory to Nonlinear Network Problems."

Information: Contact Sanjit K. Mitra, General Chairman ISCAS/74, UC Davis College of Engineering, Davis, CA 95616

1974 IEEE REGION SIX CONFERENCE OPTOELECTRONICS AND LASER TECHNOLOGY

April 24-26, 1974 - Albuquerque, New Mexico

Albuquerque Hilton Inn, 1901 University Boulevard, NE 87102. Free limousine service to airport. Rental car available.

The IEEE Region VI Conference will concentrate on opto-electronics and laser technology. Invited papers are from recognized authors. Registration Fees for the Conference: $30 members, $40 non-members. This includes all Conference activities, banquet, and Proceedings.

At the banquet, April 25, Dr. Otto M. Stuetzer will speak on "Fairy Tales in Science and Technology."

Exhibits will be available. Activities for wives are being planned.

A 3-day Laser Short Course will be held concurrent with the Conference. Fee $190, including all course notes and supplies. Early reservations recommended. Enrollment may be made by individuals, or companies, with names supplied later. Course conducted by four experienced leaders in the field.

For additional information and registration, contact Dr. Sam G. Varnado, Sandia Laboratories, Division 4733, Albuquerque, NM 87115, (505) 264-6094.

EMC - WALSH FUNCTIONS AND EMC

Dr. Stan Fralick, Staff Scientist at Stanford Research Institute will give a tutorial presentation on the definition, generation and properties of Walsh Functions. Signal representation using the Walsh Transformation spectra, image processing and direct radiation of Walsh Functions will be explained. The application of Walsh Functions to EMC areas will be discussed.

Dr. Fralick is in the Telecommuncations Dept. at SRI. His technical areas of interest in communications include pattern recognition in addition to Walsh Functions.

AES TO TOUR H-P FACILITY

On April 18, at 6:30 PM, a tour of the Hewlett-Packard, Inc. facilities on Page Mill Road, which includes several buildings, will be supervised by Mr. Steven C. Chell of Hewlett-Packard. Included will be fabrication, machine shops, as well as finished instrument production areas.

Tour will begin promptly at 6:30 PM. Meet at 1501 Page Mill Road for organization of tour groups.

Reservations mandatory, limited to 30 people maximum. Call for reservations at (415) 326-4350, x 4789 before April 15.

EMB - COMPUTER-BASED PATIENT MONITORING IN INTENSIVE CARE MEDICINE

A computer based system for monitoring the critically ill has been in operation at the Pacific Medical Center in San Francisco, since 1967. The system was developed jointly by the Institute of Medical Sciences and IBM. Monitoring of respiratory and hemodynamics data, plus incorporation of Laboratory data has been carried out for 3000 patients to date. Engineers, programmers, and clinicians involved in its development will speak on the hardware, software and clinical aspects of the system.

Robert Eberhart, PhD, and Richard Mitchell, PhD are with the Biomedical Engineering Division of the Institute of Medical Sciences. Dianne McClung and David Crawford are with Research Data Facility at IMS. John Osborn, M.D. and Mark Hilberman, M.D. are respectively Director and Associate Director of the Cardiopulmonary Unit at the Pacific Medical Center. A guided tour of the I.C.U. will be conducted at the Pacific Medical Center.