

## EDITOR'S PROFILE of this issue

*from a historical perspective ...*

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

January, 1975:

Cover: Traffic control screen at the U.S. Coast Guard Traffic Control Center on Yerba Buena Island, showing SF Bay dotted with small craft on opening day, 1974. I would have been on a Cal-30 sailboat that day, getting ready for a race. More on page 4.

Page 2: Engineering unemployment is a concern for the Section. An IEEE Employment Referral service is being set up. A coupon on page 6 allows members to join this service. A "quick reaction" network is being established to bring legislative proposals to members, for lobbying.

Page 5: A short article previews a study to break the SF Section into three independent Sections, and move the common assets (IEEE WESCON, the GRID magazine, the Palo Alto office) to a new Council structure. Read more about this in the February issue.



Archive of available SF Bay Area GRID Magazines is at this location:

[https://ethw.org/IEEE\\_San\\_Francisco\\_Bay\\_Area\\_Council\\_History](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](mailto:p.wesling@ieee.org)

# Grid

JANUARY 1975

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





volume 21  
number 4

## JANUARY 1974

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August and December by San Francisco Section  
Institute of Electrical and Electronics Engineers

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## THE COVER STORY

No, the cover photo is not of a stellar galaxy. It is an actual photo of the radar screen at the U.S. Coast Guard Traffic Control Center located on Yerba Buena Island. The PPI scope shows San Francisco Bay dotted with small craft on opening day of the 1974 yachting and sailboat season.

The San Francisco Vessel Traffic System, operated by the Coast Guard, is one of the first such systems in service, with eventual coverage of the deepdraft waterway system of the San Francisco Port Complex, including Bay tributaries north and east to Sacramento and Stockton, and south to Redwood City. Communication with vessels is maintained via VHF-FM radiotelephone. Future developments will be added to this important safety installation. This is the subject of the AES meeting for January. Attendance limited.

## PROFESSIONAL ACTIVITIES COMMITTEE

With the new year upon us, it seems appropriate to review the accomplishments of professional activities efforts over the past year on both a local and national level. On a San Francisco Section level, in the forefront has been the establishment of an IEEE employment referral service. A rapport has been established with those employers who have used the service thus far, but the continued success of this venture will hinge on continued and extensive use of this service by engineers seeking employment, whether currently unemployed or contemplating changing employers. Grant Heninger has been instrumental in the establishment of this service, with funding coming by means of grants from USAC (United States Activities Committee).

Another activity is in the maintaining of an awareness by San Francisco Section members of legislation pertinent to the EE profession. We have been fortunate in having among our members Sid Tetenbaum, who due to past activities is quite familiar with the state legislative process, and has established some contacts in Sacramento.

In support of this, and other efforts, a Quick Reaction Network of IEEE section volunteers is being formed. This network would receive information about pending legislative bills, thereby enabling members to influence their outcome by letters to congressmen and other methods. A mailing is going out shortly to those who have responded to previous quick reaction articles explaining the adverse effects that proposed tax reform legislation would have on itemized deductions for professional expenses, such as IEEE membership fees. This package will encourage communicating your feelings to your congressman and the House Ways and Means Committee, and provide a sample letter that could be followed. Those of you who would be interested in this mailing, but have not returned a quick reaction postcard are encouraged to mail in the card which is printed again elsewhere in this GRID issue.

One of the services that PAC performs is the presentation at technical society and section meetings of PAC activities and status of professional efforts on a national scale. In 1974 three such presentations were made in the San Francisco Section.

The efforts of San Francisco Section PAC members have been recognized on a national scale by their appointment to various committees. Frank Lord is a member of the IEEE National Pension

Committee, and has kept us informed on the pension reform bill passed last year. Hermann Schmid was appointed last year to the post of Region Six PAC Chairman. Bill Raukko has served with USAC as the chairman of an Ad Hoc Committee on Professional Awareness of Students, and is in the final stages of preparation of a program that would be presented to EE students at colleges. And four members of S.F. PAC served in the completion of the Young Engineers Survey with Frank Brand being Section Coordinator. The results of this survey were presented earlier last year in SPECTRUM.

The next meeting of PAC, San Francisco Section will be at 7:30 PM on Monday, January 6, 1975 at:

Philco Ford Corporation, Bldg. 3  
3825 Fabian Way, Palo Alto, California  
and is open to all IEEE members. For further information, please contact the undersigned, telephone: (415) 877-4511, or the Palo Alto office.

Hank Hanig  
PAC, San Francisco Section

## PROFESSIONAL ACTIVITIES COMMITTEE IEEE EMPLOYMENT REFERRAL SERVICES

IEEE members seeking a new position may obtain current lists of job openings by sending a self-addressed stamped set of #10 (business size) envelopes to: IEEE Employment Services, 701 Welch Road, Suite 2210, Palo Alto, CA 94304.

The job openings list will be up-dated and mailed bi-weekly. A limit of 4 envelopes is requested at one time. Confidentiality will be maintained. The mailed job listings represent the priority needs of employers.

Unemployed non-member EE's also may obtain job listings by payment of \$20 (\$40 if employed). This payment will apply toward IEEE membership and include all benefits.

The IEEE Employment Services also has at its office a list of Bay Area employers, resume forms and brochures, with helpful hints for obtaining and conducting job interviews.

IEEE members are urged to bring this service to the attention of their employers and personnel departments. Employers desiring to list openings, please send job description with a check for \$35 per job listed, to the above address. A listing will receive four mailings at 2-week intervals.

# MEETING CALENDAR

## AEROSPACE & ELECTRONIC SYSTEMS JAN. 16

Story on  
Page 4

Tour of USCG VESSEL TRAFFIC CONTROL CENTER.

JAN. 16, Tuesday, 7:30 PM, USCG Radar Station, top of Yerba Buena Island. No dinner.

## ANTENNAS & PROPAGATION SOCIETY JAN. 9

Story on  
Page 7

ELECTROMAGNETIC SOUNDING OF THE PYRAMIDS OF GIZA. Lambert T. Dolphin, Senior Physicist, Radio Physics Lab, SRI.

JAN. 9, Thursday, 8:00 PM, LMSC Auditorium, Bldg. 202, 3251 Hanover St., Palo Alto. Cocktails: 5:30 and dinner at 6:15 PM, at Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. No reservations required.

## ANTENNAS & PROPAGATION SOCIETY FEB. 15

Story on  
Page 8

ONE DAY LECTURE ON PRINCIPLES OF RADAR. See story for speakers and topics, and registration from.

FEB. 15, Saturday, 8:30 AM to 4:30 PM, Building 44, Radio Physics Lab, SRI, Main Conference Room, Laurel St., Menlo Park. Deadline for preregistration is Jan. 31. For information all F.M. Tesche (415) 845-5019 in Berkeley.

## COMMUNICATIONS SOCIETY JAN. 14

Story on  
Page 7

TIME-SHARED CODECS FOR MULTICHANNEL DM AND DPCM. Frank S. Boxall, Consulting Engineer, Woodside.

JAN. 14, Tuesday, 8:00 PM, GTE Lenkurt, 1105 Old Country Road, San Carlos (use Industrial Way entrance). No dinner. For information call E.K. Peterson at (415) 591-8461.

## COMPUTER SOCIETY JAN. 15

Story on  
Page 4

EMMY: A USER MICROPROGRAMMABLE COMPUTER. Dr. Robert M. McClure.

JAN. 15, Wednesday, 8:00 PM, University of Santa Clara Daly Science Center. Dinner: 6:15 PM, Benson Parlors at Benson Center, Univ. Santa Clara, corner of the Alameda and Santa Clara St. Reservations: Lil Redford, (408) 742-5395 by noon Jan. 13th.

## ELECTROMAGNETIC COMPATIBILITY JAN. 15

Story on  
Page 4

EMC MEASUREMENTS SYSTEM (TEMPEST). John Bohn, Watkins-Johnson Co.

JAN. 15, Wednesday, 8:00 PM, Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. Cocktails at 6:00 and dinner at 6:45 PM. Reservations: Victor Turesin (408) 742-5336 by Jan. 15th.

## ELECTRON DEVICES/RELIABILITY JAN. 11

Story on  
Page 6

JOINT MEETING. APPLICATIONS OF ION IMPLANTATION TO SEMICONDUCTOR PROCESSES. See story for names of speakers. Panel discussion after talks.

JAN. 11, Saturday, 9:30 AM to 2:00 PM, Physics Lecture Hall Room 101, Stanford. Registration fee of \$6.00 includes lunch at the Faculty Club at noon. Reservations: Section Office (415) 327-6622. (Pay as you enter).

## ENGINEERING IN MEDICINE & BIOLOGY JAN. 21

Story on  
Page 6

BIOMEDICAL TELEMETRY SYSTEMS. Dr. Harold Sandler, Ames Research Center.

JAN. 21, Tuesday, 8:00 PM, Room M-110, Stanford Medical Center Building. Dinner: 6:00 PM, Stickney's Town & Country Village, Embarcadero & El Camino, Palo Alto. Reservations: Melanie Messman (415) 321-9200 x 49 by Jan. 20th.

## GOLDEN GATE SUBSECTION JAN. 15

Story on  
Page 5

U.S. FINANCIAL OUTLOOK. Gerlof Homan, Ph.D., Economist, Morgan, Olmstead, Kennedy & Gardner.

JAN. 15, Wednesday, 12 noon, PG&E Cafeteria, 3rd floor, 77 Beale St., S.F. Pick up a lunch in the cafeteria and join us in the dining room. Reservations: Leon Glahn, (415) 764-7757 by Jan. 14th.

## INDUSTRY APPLICATION SOCIETY JAN. 28

Story on  
Page 4

UL'S PLACE IN THE INDUSTRY. Wally Wedekind, UL, Associate Managing Engineer.

JAN. 28, Tuesday, 7:00 PM, The Refectory Steak House, 1040 Columbus Ave., S.F. Cocktails at 5:30 and dinner at 6:00 PM. Reservations: Moon Yuen (415) 764-4067 by Jan. 27th.

## INFORMATION THEORY JAN. 22

Story on  
Page 7

WIENER MEMORIAL LECTURE. Prof. Thomas Kailath, Professor of Electrical Engineering at Stanford.

JAN. 22, Wednesday, 8:30 PM, Skilling 193, Stanford University. Dinner at 6:15 PM, Tokay Restaurant, 878 Santa Cruz Ave., Menlo Park. Reservations: Ms. Carrington, (415) 497-4539 by Jan. 20th.

## MICROWAVE THEORY & TECHNIQUES JAN. 16

Story on  
Page 6

MILIMETER WAVE MIC MIXERS. Ashok Gorwars, SRI.

JAN. 16, Thursday, 8:00 PM, SRI, Bldg. 44, Laurel St., Menlo Park. No dinner.

## POWER ENGINEERING SOCIETY/ANS JAN. 14

Story on  
Page 5

Joint with American Nuclear Society. AEC'S STANDARDIZATION POLICIES FOR NUCLEAR POWER PLANT DESIGN. John V. Morowski, VP for Engineering, Thermal Power Org., Bechtel Power Corp.

JAN. 14, Tuesday, 7:30 PM, Conference Rooms A and B, First Floor, PG&E Bldg., 245 Market St., S.F. Dinner 6:30 PM, PG&E Cafeteria, 3rd floor, 77 Beale St. Reservations: Pam K. Gupta, (415) 781-4211 x 3728 or Miss Carol Franke, (415) 781-4211 x 1442. (Reservations requested for dinner and meeting.) By Jan. 13th.

## VEHICULAR TECHNOLOGY JAN. 20

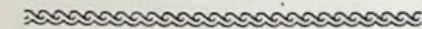
Story on  
Page 4

FOOTHILL ELECTRONICS MUSEUM. Jack Eddy, Curator of the Museum.

JAN. 20, Monday, 8:00 PM, Foothill College, 12345 El Monte Blvd., Los Altos Hills. Dinner: 7:00 PM, Banquet Room, Foothill College, \$6.36/person. Reservations: Mark Young, Motorola, (415) 349-3111 by Jan. 15th.

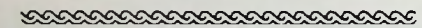
## U.S. COAST GUARD'S VESSEL TRAFFIC CONTROL CENTER

The Aerospace and Electronic Systems Group will meet at 7:30 PM, January 16, 1975, at the top of Yerba Buena Island for a tour of the U.S. Coast Guard's Vessel Traffic Control Center for San Francisco Bay. The Center uses high definition radar (see this month's cover picture) and VHF radio telephone to assist mariners within the confines of San Francisco Bay, and to promote safety on the waters of the Bay. The tour will meet at the radar station, where there is ample parking. Due to limited space the group will be limited to thirty persons, and reservations must be made. Call Jim Welch at 326-4350, extension 5231, to make reservations and get road instructions.



## AUTOMATIC EMC MEASUREMENTS SYSTEM (TEMPEST)

The Electromagnetic Compatibility Chapter will be addressed by Mr. John Bohn of Watkins-Johnson Co., of Palo Alto (CEI Division), on application of WJ 8940A Multi purpose receiving system. This is a new semiautomatic or computer controlled EMC measurement system which meets the requirements of MIL-STD-461 A and MIL-STD-462. In addition, the system is capable of meeting the narrowband TEMPEST measurements of NASCEM 5100 specification. Handouts will be provided as practical application guides.



## 1975 IEEE SOLID-STATE CIRCUITS CONFERENCE

Philadelphia - February 12-14, 1975  
Marriott Motor Hotel

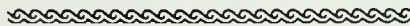
Participation by more than 170 authors from North America, Europe, Asia. Registrants receive 280 page digest of technical papers. 25 day and evening sessions. Advanced registration fee (members) \$35, and (non-members) \$45, higher at Conference. Cut-off date for advance registration, February 7, 1975.

Information and registration forms from IEEE Office, Moore School of Engineering, Univ. of Pennsylvania, Philadelphia 19174, or Lewis Winner, 152 W. 42nd Street, New York, N.Y. 10036.

GRID - 4

## FUTURE MEETINGS OF INTEREST IN 1975

Jan. 13-15	Winter Simulation Conf.	New York City
Feb. 10-13	WINCON 75	Los Angeles
Feb. 25-27	COMPCON 75	San Francisco
Mar. 11-12	Industrial Applications of Microprocessors	Philadelphia
Apr. 8-11	INTERCON 75	New York City
Apr. 21-23	Circuits & Systems Symp.	Boston
May 12-14	Electronic Components Conf.	Washington, D.C.
May 13-15	Electrical and Electronics Measurement and Test Instrument Conf.	Ottawa, Canada
May 19-22	National Computer Conf.	Anaheim, California
May 28-30	IEEE/OSA Conf. on Laser Engineering & Applications	Washington, D.C.
June 1-4	PICA (Power Ind. Comp.)	New Orleans



## EMMY: A USER MICROPROGRAMMABLE COMPUTER

The Computer Society meeting for January will feature a presentation of the EMMY Computer being developed at Palyn Associates for installation at Stanford University.

EMMY is a 32 bit system which provides 4K of 60 nanosecond access micro-storage for both data and microinstructions. Two new concepts in computer architecture, dynamic microprogramming and soft computer architecture will be discussed. Details of the high speed switching technology which exhibits an internal cycle time of 25ns will also be presented.

Bob McClure will describe the development goals and trade offs of the design and its potential for commercial utilization.

Dr. Robert M. McClure, Vice President of Palyn Associates, has been involved with computer design since 1956. He was with Texas Instruments prior to becoming associate professor at S.M.U. He formed his own company, Telpar, in 1969 and in 1972 joined Palyn Associates.

See CALENDAR for Program Arrangements

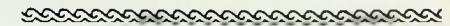
## VEHICULAR TECHNOLOGY TO VISIT FOOHILL COLLEGE ELECTRONIC MUSEUM

Mr. Jack Eddy, Curator at Foothill College Electronic Museum will discuss the history and describe the displays, after which the museum will be open for viewing.

Foothill College Electronic Museum is housed in a modern two-story building next to the Foothill Observatory. One of the displays is radio station KQW which began broadcasting from San Jose in 1909, and is still in operation. Other displays include early camera tubes, spark transmitters, early wireless receivers, items from the collection of Dr. Lee de Forest and an early television tube developed by Philo Farnsworth in 1932.

Museum Curator Jack Eddy said the museum is the only one of its kind in the area. "The idea is to take the history of electronics from the Peninsula and keep it right here," he said.

A roast beef dinner at \$6.36 per person will be served in the banquet room of Foothill College at 7 PM and the program will start at 8 PM. Space is limited and all reservations must be made by Wednesday, January 15. Reservations for the dinner or tour can be made by calling Mark Young at 349-3111.



## CONSUMER PRODUCT SAFETY

The Industry Applications Society will hear a talk by Mr. Wedekind of the Underwriters Laboratories, an overview of the Underwriters Laboratories role in promoting safety in design of consumer products. This is accomplished by cooperation between the inspection authorities and manufacturers of such products, and through use of the National Electric Code.

Mr. Wally Wedekind is a graduate of the University of Wisconsin, and has been with the Underwriters Laboratories for some 35 years, working actively in the investigation of both power and electronic devices.

JANUARY 1975

# LASER TECHNOLOGY COURSE

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  - Includes 806 pages of bound notes.
  - Provides fundamental theoretical background of lasers, laser phenomena and laser applications.
  - Introduces important practical developments and problems in laser field.
  - Seminars by six prominent laser scientists/engineers, recorded as presented at Sandia Laboratories in New Mexico.
- (see reverse side for details)

Presented at Genesys Systems, Inc. starting February 3, 1975, centrally located in Palo Alto

### VIDEOTAPED LASER SEMINARS



**GENESYS SYSTEMS**

**WHEN AND WHERE**

The three-hour lectures will be split into two 90 minute segments shown from 7:30 P.M to 9:00 P.M. Monday and Wednesday, or alternatively on Tuesday and Thursday starting the week of February 3, 1975. You may attend on any of these days if you have a schedule conflict. Alternate viewing times for make up of missed lectures may be scheduled by special arrangement. Lectures are shown at Genesys Systems, Inc. classroom in Palo Alto.

**PRE-REQUISITE (RECOMMENDED)**

Bachelor's degree in Electrical Engineering or Physics with background in electromagnetic theory or practice.

**LECTURERS**

The topics will be presented by six of the world's leading Laser Engineers/Scientists. They are: Prof. Amnon Yariv, Cal Tech; Prof. A. E. Siegman, Stanford University; Prof. L. DeShazer, USC; A. Chester, Hughes; R. Byer, Stanford; J. Marburger, USC.

**TERMS**

The fee for the entire course is \$100. The notebook which contains all written materials and graphics shown on the tapes is \$17.00. Refund of the course fee will be made at any time up through the end of the first lecture. No refund is available on the course notes.

**REGISTRATION INFORMATION**

The enrollment for the course is limited. Therefore, persons interested in taking the course are urged to enroll early by completing and mailing the attached registration form. A receipt and registration packet will be sent by return mail. Notebooks will be handed out at the first lecture. Advance registration is required. For more information contact:

Paul De Liban  
Genesys Systems, Inc.  
1121 East Meadow Drive  
Palo Alto, California 94303  
Telephone: (415) 328-0560

**Videotaped Seminars and  
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Business, and Management**



**GENESYS SYSTEMS**

**LASER TECHNOLOGY COURSE  
REGISTRATION FORM**

(Should be received before Jan. 15,  
1975 — Add \$5.00 fee for late registration)

Yes! I want to attend the Seminars. Please  
enroll me in the  Monday-Wednesday  
 Tuesday-Thursday series.

Enclosed is my check for \$124.00 (tax de-  
ductible) which includes lecture fee,  
notebook, and sales tax.

Alternatively, please bill my company  
if proper authorization is provided with  
this application.

\_\_\_\_\_  
NAME (Please print)

\_\_\_\_\_  
ADDRESS

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
PHONE NUMBER

MAIL TO:

Paul De Liban  
Genesys Systems, Inc.  
1121 East Meadow Drive  
Palo Alto, California 94303

Telephone: (415) 328-0560

1975 Winter Convention  
on Aerospace and Electronics Systems,  
Americana Hotel, Los Angeles, California, February 5 - 7

Plan Early to Attend  
**ORDER NOW!!!**  
See Forms on Reverse

# WINCON

Institute of Electrical & Electronic Engineers, Inc.  
Aerospace & Electronic Systems Society  
Los Angeles Council, IEEE

**Theme:** "Command and Control and Communications." An exchange of information with the Nation's leading authorities with special emphasis on the adaptation of the military state of the art to civil problems.

Sponsored by the Los Angeles Council of the Institute of Electrical & Electronic Engineers, Inc. and the Aerospace and Electronics Systems Society, with support and participation by the Department of Defense and the U.S. Army, Navy and Air Force.

IEEE sessions will be held at the new Los Angeles Americana Hotel. Department of Defense sessions will be held at System Development Corporation and The Rand Corporation.

Attendees are encouraged to register for WINCON '75 on Tuesday evening, February 4. For your pleasure there will be a registration no-host cocktail party from 6:30-9:30 that evening.

## Wednesday, February 5th

Department of Defense  
Chairman:  
Wallace D. Henderson  
Director, Indications & Warning  
OASD(I)  
"Surveillance & Warning"

Chairman:  
Dr. Harry L. VanTrees  
Chief Scientist  
& Associate Director for Technology  
Defense Communications Agency  
"Telecommunications Systems"

LUNCHEON  
LtGen Kenneth Schultz  
Cmdr, SAMSO

## Thursday, February 6th

IEEE  
Chairman:  
Dr. George S. Sebestyen  
Group Vice President  
Federal Systems Group  
Sanders Associates, Inc.  
"The Limits of Technology  
for Command & Control"

Chairman:  
Dr. Robert Cannon  
Chairman, Department of Engineering  
California Institute of Technology  
"Non-Defense Command  
& Control Needs"

LUNCHEON  
Hon. William P. Clements, Jr.  
Dep. Secretary of Defense

## Friday, February 7th

Department of Defense  
Chairman:  
Dr. Barry W. Boehm  
Director, Software Research  
& Technology  
TRW Systems  
"Information Processing for C3"

Chairman:  
MGen Lawrence W. Steinkraus  
U. S. Air Force (Ret)  
"Summation"

LUNCHEON  
RADM Jon L. Boyes  
Cmdr, Naval Telecommunications  
Command

## Banquet

Presentation of  
Annual WINCON Award



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 System Development Corporation  
**TECHNICAL PROGRAM CHAIRMAN**  
 Dr. James R. Burnett  
 TRW Systems  
**OPERATIONS CHAIRMAN**  
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## Registration Fee Schedule

	IEEE Member	Non Member	Military	Student
<b>FULL REGISTRATION:</b> Admission to all IEEE sessions, Department of Defense sessions, three luncheons and the banquet	\$65.00	\$75.00	\$45.00	N/A
<b>IEEE &amp; Department of Defense SESSIONS:</b>				
IEEE Sessions Only*	\$25.00	\$30.00	\$10.00	N/A
	\$10.00	\$15.00	.....	0
<b>LUNCHEONS &amp; BANQUET:</b> (Per Person)				
Single Luncheon	\$ 9.00	\$10.00	\$ 9.00	\$ 2.50
Banquet (Formal: black tie)	\$25.00	\$25.00	\$25.00	\$25.00

\*No Advance Registration Accepted

## Advanced Registration Form

Please clip and mail this form, with check to address below.

NOTE: No advance single day registration will be accepted; all registrations subject to space availability.

INDICATE ORDER:	No.	IEEE Member	Non Member	Military	Totals:
Full Registration	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
Technical Sessions (IEEE & DoD)	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
<b>SPECIAL EVENTS:</b>					
Luncheon, Wed. 2/5	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
Banquet, Wed. 2/5	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
Luncheon, Thurs. 2/6	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
Luncheon, Fri. 2/7	_____ X	\$ _____	\$ _____	\$ _____	= \$ _____
<b>MAKE CHECK PAYABLE IN THIS AMOUNT:</b>					<b>TOTAL \$ _____</b>

MAIL BADGES, TICKETS & PROGRAM TO ME AT:

Name \_\_\_\_\_

Address \_\_\_\_\_ Zip \_\_\_\_\_

Service, Agency or Firm: \_\_\_\_\_

Rank or Title \_\_\_\_\_

Address \_\_\_\_\_ Zip \_\_\_\_\_

Spouse will accompany:  Yes  No

I plan to stay at the \_\_\_\_\_ Hotel

**Make Checks Payable To:** WINCON '75

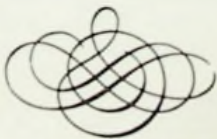
**Mail To:** A. L. Slotkin  
 System Development Corporation  
 2500 Colorado Ave.  
 Santa Monica, CA 90406

## FELLOW NOMINATIONS

Nominations for award of Fellow grade for next year now are being solicited. The San Francisco Section Fellow Committee is organizing its efforts to propose for Fellow, prominent members of the engineering community. Assistance of all members, Group/Society Chapters and present Fellows are welcome in identifying IEEE members of unusual professional distinction with "outstanding and extraordinary qualifications and experience". Please note that the requirement is that all nominees for Fellow grade *must be presently a Senior Member* and must have been IEEE members for *five years*. There is a list of Senior Members and one of all Fellows in the SF Section, available at the Section Office for your convenience and reference.

Nominations will be processed for submission in April, 1975 and should be in the Section office by February 15, 1975. For forms and instructive packets, contact Mrs. Jean Helmke at the Section office, (phone 415-327-6622). Preliminary biographical information may be sent in by letter to the Section office for committee assistance in preparing the proposal.

The Fellow Committee Chairman is Hugh Webber, who may be reached daytime at (408) 225-6200 or evenings at (415) 324-3055.



## ENGINEERS WEEK IN THE SANTA CLARA VALLEY

### A Joint Effort by the California Society of Professional Engineers and the Professional Engineering Societies

Engineers Week is February 17 through 23, 1975. On Friday the 21st of February exhibition booths will be set up in the lobby of the Mediterranean Center of the Hyatt House in San Jose for each of the Engineering Societies in the area. The exhibition will be from 1-5 PM. The purpose of the exhibition is to make the engineering community and the interested public aware of the unique technical aspects associated with each of the engineering societies. The exhibitions also will demonstrate the role of the engineer in our society.

## NUCLEAR PLANT STANDARDIZATION PES-ANS JOINT MEETING

The Power Engineering Society and the American Nuclear Society will hold a joint meeting on January 14, 1975, featuring a presentation on the AEC's standardization policies for nuclear power plant design. These policies are aimed at expediting and streamlining the licensing process. The AEC regards standardization as the single most important means of minimizing the impact of the design and licensing process of the lead time for nuclear power plants.

This talk will be presented by Mr. John V. Morowski who is the Vice President for Engineering, Thermal Power Organization, Bechtel Power Corporation. Mr. Morowski will highlight the problems associated with implementing standardization policies and will discuss in detail the various approaches used to-date toward standardization such as the "Reference Systems" design, the "Duplication" design, and the "Generic design."



## Power and Life

The symbol above is that of the Power Life Award established in 1970 by the IEEE Power Engineering Society for recognition of power engineers who have made significant contributions in the field of harmonious development of man and his environment.

The original sculpture utilizes the form of an electro-cardiogram and bears the name "Heartbeat", thus appropriately symbolizing Life.

The Award was donated by Andrew R. Cooper, London, an electrical engineer and then president of CIGRE. It is based on an original bronze by the noted Canadian sculptress, Helen Louise Gordon. The original sculpture is on display at IEEE Headquarters in New York, and each recipient is given a smaller bronze replica, also an original by Mrs. Gordon.

## PROPOSED REORGANIZATION OF SAN FRANCISCO IEEE SECTION

In an effort to unite the various elements of IEEE (Group/Society Chapters, PAC, and General Membership) at the local operating level, the San Francisco Section has proposed a major organizational change in our area.

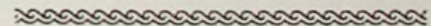
The proposal envisions three sections operating in the same geographical area that is currently being represented by the San Francisco Section. A council committee consisting of 2 representatives from each of the new sections would be formed to remove certain administrative details, (GRID, IEEE WESCON, Office) from these local operating sections, so that they may concentrate on technical, professional and educational activities.

The need for organizational change is brought on primarily by the continuing growth in membership and increases in technical, professional and educational activities in this area.

The new organization will be flexible with ability to react to further changes as required for maximum effectiveness.

More complete details of this proposed change will be included in the February GRID.

E.D. Jackson, Section Chairman



## THE U.S. FINANCIAL OUTLOOK

The Golden Gate Subsection will hear a talk on the U.S. Financial Outlook by Dr. Homan at a noon meeting on January 15. Dr. Homan teaches several economic classes to Bechtel employees and is well versed in the engineer's interest in the financial outlook. He specializes in forecasting markets and in consulting in finance and foreign exchange. He authors a quarterly "The State of the Economy and Outlook" and he manages seven pension funds.

### Safety in Nuclear Industry Reflected by Additional Premium Refunds by Insurers

The printed media seems to find space for those spokesmen who *question* the safety of nuclear power plants. Seldom do you see in the daily press any confirmation of this 17 year old nuclear power industry's safety record. Following is a July 2, 1974 news release from the Insurance Information Institute which I have yet to see in the public press. We are indebted to the News Bureau of Pacific Gas and Electric Company for bringing this information to our attention.

The Editor

Hartford Conn. July 25, '74 - - The extraordinary safety record of the nuclear industry prompts additional premium refunds of \$1,434,580 from the two American nuclear liability insurance pools which provide all of the nuclear liability insurance to the industry.

Spokesman for the pools, Nuclear Energy Liability Insurance Association (NELIA) and Mutual Atomic Energy Liability Underwriters (MAELU), described the refund as an expression of their confidence in the safety of nuclear installations. *Since the commencement of their operation in 1957, neither pool has ever received a claim arising from the operation of a nuclear reactor.* They note that the good safety record of their insureds is without parallel in other industries. The safety record, they said, continues to confirm the effectiveness of the safety measures taken to protect the public.

The total premium refunds paid by NELIA and MAELU in the last eight years is \$6,562,894. Under the rating system used by the nuclear liability insurance pools, a substantial portion (approximately 70 per cent) of the premium received from the nuclear insureds in the United States is placed in a loss reserve fund. If these funds are not utilized to pay losses, they are returned to insureds after a period of 10 years.

The nuclear liability insurance pools provide nuclear liability coverage for every utility-operated nuclear power reactor in the United States. Also, they insure virtually all privately operated research and development reactors as well as many other activities involving the use of substantial quantities of nuclear material.

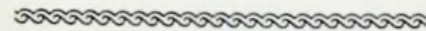


### NEWSLETTER DEADLINES

Failure to meet established news deadlines for use in the GRID is causing serious complications for Jean Helmke at the office, for the editor, for the typist, the printer and mailer. Put all these together and it can be seen that the problem of GRID material supplied late can multiply almost as fast as a computer.

Late material results in extra telephone calls, more miles on the editor's personal automobile, and difficulty to the typist, the printer and mailer in integrating the production of the GRID into their other work schedules.

Please remember that the *absolute deadlines for all material* to be in the IEEE office during the next four months is January 2, January 31, February 28 and March 31. If you can anticipate (*that means better*) those dates, you will be making a lot of other conscientious people happy.

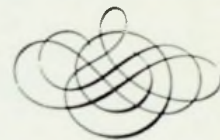


This space reserved for the Microwave Theory and Techniques Society.

### APPLICATIONS OF ION IMPLANTATION TO SEMICONDUCTOR PROCESS

The Electron Devices/Reliability Groups will hold a joint meeting on January 11, 1975 on the subject of ion implantation. In the past several years ion implantation has moved from the laboratory to being a practical process for the semiconductor device manufacturer. Touted as a replacement for the well-known diffusion process, ion implantation has found application in MOS and bipolar technologies, permitting the development of advanced integrated circuits and devices.

This meeting will serve the needs of not only those semiconductor engineers who wish an introduction to ion implantation but others who desire a working knowledge of current ion implantation applications. Both bipolar and MOS (including CCD) technologies will be discussed. The speakers will include J.F. Gibbons of Stanford University, J.D. Trotter of American Microsystems, T. Sigmon of Hewlett-Packard and M. Guidry of Fairchild.

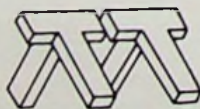


### BIOMEDICAL TELEMETRY SYSTEMS

The Engineering in Medicine and Biology Group in January will have the opportunity of hearing from Dr. Harold Sandler, Division Chief, Biomedical Research, Ames Research Center, Moffett Field. He will discuss Biological Telemetry Systems.

Dr. Sandler has been active in cardiovascular research and instrumentation development for the last decade. His talk will consider details of biomedical systems developed at the Ames Research Center.

These systems have been used in numerous studies at Ames in relation to the Space Program. Basic research has been done on both humans and animals as to the effect of various conditions to be encountered in Space.



**APS-ELECTROMAGNETIC  
SOUNDING OF THE PYRAMINDS  
OF GIZA**



During the fall of 1974 a joint Egyptian-SRI team attempted to explore the pyramids of Giza by means of monocycle pulse, portable electromagnetic sounders operating in the frequency range 10 to 140 MHz. Dielectric sample measurements of Giza limestone in 1972 had given hope that RF attenuation would be sufficiently low to permit a radar search for hidden chambers or passageways.

Actual *in situ* losses of both the pyramids and underlying bedrock, however, were found to be prohibitively high because of high moisture content of the rocks below the surface layers. Equipment development and testing, operations in Egypt, and plans for next year's expedition will be described by means of colored slides.

Mr. Lambert Dolphin, senior physicist from SRI's Radio Physics Laboratory, joined the Institute in 1956 after graduating from San Diego College and completing two years of graduate study at Stanford University. For the past two and a half years he has been working in remote subterranean sensing.

**WIENER MEMORIAL LECTURE  
Prof. Thomas Kailath**

This memorial lecture was originally given in October as part of the International Symposium on Information Theory at Notre Dame. Those of you who were unable to attend now have another chance to hear this entertaining and informative overview of the life and work of Norbert Wiener.

Prof. Kailath is a Professor of Electrical Engineering at Stanford University, and is Director of the Information Systems Laboratory.

Please note the change from the usual time and place of meeting: Wednesday, January 22, 1975; 8:30 P.M.; Skilling 193, Stanford University.

Dinner: Tokay Restaurant, 878 Santa Cruz Avenue, Menlo Park, 6:15 P.M.

Reservations: Ms. Carrington, 497-4593 by January 20, 1975.

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**UNIVERSITY OF SANTA CLARA  
State-of-the-Art Review Courses**

Ten week classes begin Monday, Jan. 13, 1975.

- ETX 341 Communications Technology
- ETX 351 Electronic Circuit & Systems Technology
- ETX 352 Designing with Linear IC's
- ETX 353 Designing with Digital IC's
- ETX 302 Designing with Microcomputers
- ETX 303 Microprocessor Software

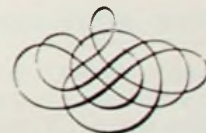
Courses 4:30-6:15 PM, two days per week; Fee: \$200, including course material & notes; Registration 8:00 AM - 6:00 PM, January 6, Brannan Hall, Room 210, Univ. of Santa Clara; Information: Center for Continuing Education, University of Santa Clara, Santa Clara, CA 95053. Phone (408) 984-4518

**TIME-SHARED CODECS FOR  
MULTICHANNEL DM AND DPCM**



At the January 14th meeting of the Communications Society, Frank Boxall will describe methods by which one high speed delta modulation codec can be time-shared over a large number of channels. The methods are also applied to multichannel differential PCM terminals. In both cases the time-shared codecs include step size adaptation determined by the recent past history of the coded digital signal. A method for digital conversions between multichannel linear PCM and ADPCM formats is also described.

Dr. Boxall has been engaged in development of telephone carrier equipment for most of his professional career. In 1964 he founded the Vicom Corporation and in recent years has been an independent consulting engineer.



**NEW BOOK AVAILABLE**

"Automatic Test Equipment: Hardware, Software and Management", a book of 28 selected reprints, is announced by the IEEE Press. Edited by Fred Liguori, Naval Air Engineering Center. Sponsored by IEEE Aerospace and Electronic Systems Group; 264 pages; paperbound; \$6.00 to members. Clothbound edition available for \$11.95 (\$8.95 for members). Clothbound edition available from John Wiley & Sons.

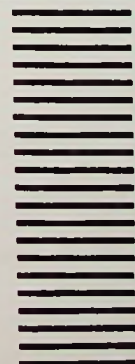
A new catalog listing 18 IEEE Press Books may be obtained free from: IEEE Press, IEEE, Inc., 345 East 47th Street, New York, N.Y. 10017.

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**UC-BERKELEY EXTENSION COURSES**

**Menlo-Atherton High School**

Starting February 3:  
"Advanced Sensor Technology"

Starting February 4:  
"Machine Perception, Understanding and Artificial Intelligence"  
"Electronic Communication Systems"  
"MOSFET Device and Memory Design"

**UC Campus - Berkeley**

Starting February 4:  
"System Design Using Digital/Linear Integrated Circuits"

**UC San Francisco**

Starting February 3:  
"Industrial Research and Development Management"

Starting February 6:  
"Energy Economics"

All courses offer optional academic credit in UC-Extension's "Professional Credit" x 400 series. Information: Continuing Education in Engineering, UC Extension, 2223 Fulton Street, Berkeley, CA 94720; (415) 642-4151



**\$3 EIT REFRESHER COURSE**

A unique, low-cost review for the April 18 California EIT examination is being sponsored by De Anza College in Cupertino. Engineering 365, which will start on January 2 at 6 PM and continue every Tuesday and Thursday until mid-March, will cost only three dollars. Further, 4 quarter-units of college credits will be awarded for successful completion. Anyone may take the class; and there are no residence requirements. Registration will be taken during the first two class meetings; no advance registration is required.

To obtain the class location, call Michael Lindeburg, (415) 591-8461, X 285 or (415) 593-9731. Also, the Office of Continuing Education at De Anza College (408) 257-5550.

Teaching will be by basic formulae review with copious examples of applications. Derivations and proofs will not be stressed. All typical EIT topics will be covered. Registration materials for the April 18 EIT examination will also be available during the first 2 meetings.

**COVER PHOTOS**

Cover photos for the March and April issues of the GRID would be welcomed by the editor

**APS - ONE DAY LECTURE SERIES PRINCIPLES OF RADAR**

The IEEE Antennas and Propagation Society will present a one-day tutorial lecture series titled "Principles of Radar", at Building 44, Radio Physics Laboratory, (SRI), Main Conference Room, Laurel St., Menlo Park, Ca., on Sat., Feb. 15, from 8:30 am to 4:00 pm.

Speakers and topics are:

- "The Radar Range Equation"  
Mr. John B. Damonte, Lockheed
- "Search and Tracking Radar"  
Dr. A.F. Sciambi, Philco-Ford
- "Atmospheric Effects on Propagation"  
Dr. Nicholas Cianos, SRI
- "Synthetic Aperture Radar"  
Dr. Daniel Levine, Lockheed
- "Laser Radar"  
Dr. Richard D. Hake, Jr., SRI

Deadline for preregistration is Jan. 31. Fees: IEEE member \$15, non-member and late registration \$20. Fees include notes and lunch (lunch guaranteed for preregistration only).

Mail form with payment to:

Dr. Frederick M. Tesche  
Science Applications, Inc.  
P.O. Box 277  
Berkeley, Ca. 94701

**MEMBERS - ASSISTANCE NEEDED - QUICK REACTION NETWORK**

As discussed in the PAC column, there is being established in the S.F. Section IEEE office a communication center for the purpose of providing our organization a quick reaction network in response to legislative activities in Sacramento and the Congress, as an example. In order to do this effectively, we will need a few minutes of your time to receive and disseminate vital information which comes out of our statewide and national organization.

.....  
cut here and mail

Following is a self-addressed stamped questionnaire requesting your active support in this effort. Upon receipt of an affirmative answer from you, we will place you on our active mailing list so that you will receive in-depth background briefing of the activities of PAC.

**QUESTIONNAIRE - S.F. SECTION PAC**  
Please check one

- Yes, I will be available for active participation in the quick reaction network.
- I am not available at this time but would like to keep in touch.

Comments: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone: \_\_\_\_\_

Office Home

GRID - 8

.....  
Enclosed is check (payable to APS) for the amount \$ \_\_\_\_\_, for the Feb. 15, 1974 Lecture Series on "Principles of Radar".

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
no. street  
city state zip  
Phone: \_\_\_\_\_  
Check one:  
Member Non-Member

See CALENDAR for Program Arrangements  
JANUARY 1975