

EDITOR'S PROFILE of this issue

from a historical perspective ...

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

May, 1971:

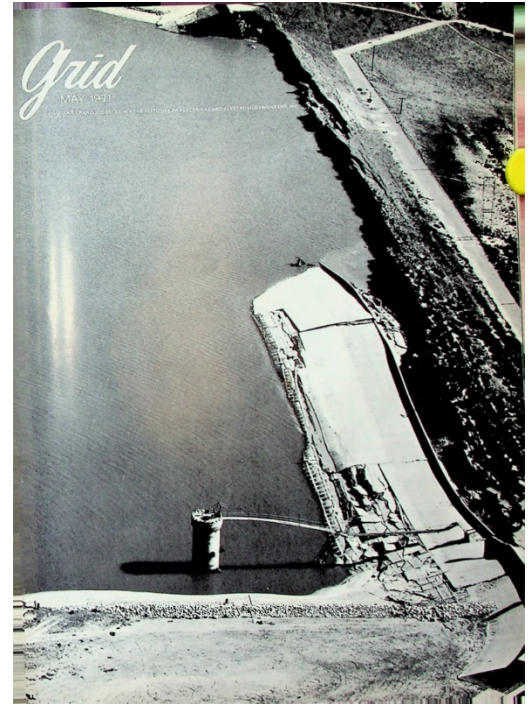
Cover: Shown is the failure of the Van Norman reservoir dam in the San Fernando Valley. Living with earthquakes is the topic of a meeting. More on page 3.

Page 4: a symposium on LSI memory includes some notable speakers:

Gordon Moore of Intel (known for "Moore's Law")

Dave Hodges, EE/CS professor at UC-Berkeley (who worked with me on setting the new IEEE Transactions on Semiconductor Manufacturing)

Bill Davidow of Signetics, later a venture capitalist (I pitched him an idea for a new product, but didn't get funding)



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

Grid

MAY 1971

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MAY 1971

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ON THE COVER

'How to Live with Earthquakes' will be the subject of the Antennas and Propagation meeting May 20. The cover picture shows the failure of earthfill dam at Lower Van Norman Reservoir in San Fernando Valley. Slides will be used to illustrate the recent "moderate shock" had on the earth and structures. Story on page 3.

EXPOSED

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MEETING CALENDAR

AEROSPACE & ELECTRONIC SYSTEMS MAY 27

Story on page 3

TOUR OF BART SOUTH HAYWARD YARDS. Strictly limited to 50 persons. See story for directions to the location.

MAY 27, Thursday, 7:00 PM, BART South Hayward Yards. No dinner. Reservations must be made; call Pat Hoppe at 326-4350, ext. 6143, before May 25th.

ANTENNAS & PROPAGATION MAY 20

Story on page 3

HOW TO LIVE WITH EARTHQUAKES. N. Timothy Hall, Instructor in Geology at Foothill College. Dinner meeting. Ladies are welcome.

MAY 20, Thursday, 7:00 PM, Rickey's Hyatt House, 4219 El Camino, Palo Alto. Cocktails at 6:00 PM, followed by dinner meeting at 7:00 PM. \$5.90 per person. Reservations: J. D. Bruce, Probe Systems, 732-6550 (or your company coordinator) by May 14th.

AUTOMATIC CONTROL MAY 18

Story on page 3

TECHNOLOGY AND THE NEEDS OF MAN. Prof. William K. Linvill, Stanford University.

MAY 18, Tuesday, 8:00 PM, Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. Dinner at 6:15 PM. No reservations.

COMMUNICATION TECHNOLOGY MAY 18

Story on page 4

1800 CHANNEL HETERODYNE RADIO SYSTEM. J. J. Heinemann, Superv. Engineer, GTE Lenkurt, San Carlos.

MAY 18, Tuesday, 8:00 PM, Rickey's Hyatt House, University Room, 4219 El Camino, Palo Alto. No host cocktails 5:45 PM, dinner: 6:45 PM. Reservations: Don Kidder, 591-8461, ext. 897, by May 14th.

COMPUTER MAY 25

Story on page 4

A LARGE EXPERIMENTAL SYSTEM EXPLORING MAJOR HARDWARE REPLACEMENT OF SOFTWARE. Dr. William Smith, Associate Director, Memory Systems Effort, Fairchild Semiconductor. **ELECTION OF 1971-72 OFFICERS FOR COMPUTER CHAPTER.**

MAY 25, Tuesday, 8:00 PM, Skilling Auditorium, Stanford. Dinner: 6:15 PM, Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. Reservations: Judi DeMetre, 321-3300, ext. 270, by May 24th.

EAST BAY SUBSECTION/ GOLDEN GATE SS MAY 24

Story on page 4

JOINT MEETING. THE STORY OF APOLLO 14. Bradford A. Evans, Public Affairs Officer, NASA, Ames Research Center.

MAY 24, Monday, 8:00 PM, The Engineers Club of San Francisco, 160 Sansome St., S.F. Dinner: 7:00 PM, Reservations: Engineers Club, 421-3184 by May 21st.

ELECTROMAGNETIC COMPATIBILITY MAY 17

Story on page 4

MIL-STD-461/462: CONTRACTUAL AND TEST ASPECTS. Speakers to be announced.

MAY 17, Monday, 8:00 PM, Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara (at 280 Freeway intersection). Dinner: 6:15 PM, Custom House, 20060 Stevens Creek Blvd. just east of Saratoga/Sunnyvale Road, Cupertino. Reservations: Don Clark, 948-5576 by May 17th.

ELECTRON DEVICES MAY 18

Story on page 5

LIGHT EMITTING DIODES. Joseph D. Taynai, Sylvania, Mt. View.

MAY 18, Tuesday, 7:30 PM, Rick's Swiss Chalet, 4085 El Camino Way, Palo Alto. Cocktails: 6:00 PM; dinner: 6:30 PM, Reservations: Section office (415) 327-6622 by May 18th.

ENGINEERING MANAGEMENT MAY 12

Story on page 5

RESULTS - AND SATISFACTIONS - FROM INSPIRATION AND MOTIVATION. John Ralston, Head Football Coach at Stanford University. **FATHER AND SONS NIGHT. ELECTION OF 1971/72 EM officers** following meeting.

MAY 12, Wednesday, 8:00 PM, Lockheed Auditorium, Bldg. 202, 3251 Hanover St., Palo Alto. No dinner.

ENGINEERING IN MEDICINE & BIOLOGY MAY 11

Story on page 5

DETECTING DRUGS OF ABUSE. William McGlashan, Business Director, Synvar Associates, Palo Alto. **ELECTION OF OFFICERS for 1971-72.**

MAY 11, Tuesday, 8:00 PM, Stanford University Medical Center, Room 112. Dinner: Red Cottage, 1706 El Camino, Menlo Park at 6:30 PM. Reservations: Elaine Ward, 321-1200, ext. 6141 by 5:00 PM, May 10th.

INFORMATION THEORY MAY 20

Story on page 5

REAL TIME DIGITAL PROCESSING TECHNIQUES APPLIED TO COMMUNICATIONS RECEIVERS. Dr. F. D. Natali, Sr. Engineering Specialist, Philco-Ford Corp., Palo Alto.

MAY 20, Thursday, 8:30 PM, SRI Bldg. 1, 333 Ravenswood Ave., Menlo Park. Dinner 6:00 PM, Prime Rib Inn, 4175 El Camino, Palo Alto. Reservations: Miss Geri Gibling, 326-6200, ext. 3881, by noon May 20th.

**MAGNETICS
MAY 18**

Story on
page 7

PANEL DISCUSSION: REVIEW OF THE 1971 INTERNATIONAL MAGNETICS CONFERENCE. James Eaton, Moderator.

MAY 18, Tuesday, 8:00 PM, Hewlett-Packard Co., 5301 Stevens Creek Blvd., Santa Clara. No dinner.

**MICROWAVE THEORY
& TECHNIQUES
MAY 12**

Story on
page 7

COMPUTER SYNTHESIS OF MICROWAVE FILTERS. Robert Wenzel, Wavecom, Inc., Northridge, Cal.

MAY 12, Wednesday, 8:00 PM, Hewlett-Packard, 5301 Stevens Creek Blvd., Santa Clara. No dinner.

**NUCLEAR
SCIENCE
MAY 18**

Story on
page 7

WINETASTING AT CONCANNON VINEYARDS followed by a talk on Air Pollution by Carroll Maninger, Deputy Dept. Head, Electrical Engrg. Dept., LRL.

MAY 18, Tuesday, 6:00 PM for winetasting at Concannon Vineyards, Tesla Road, Livermore. Dinner: Hap's Restaurant, 122 Neal St., Pleasanton at 7:45. Reservations: June Costa, 447-1100, ext. 7307 by May 14th.

**POWER SOCIETY
MAY 11**

Story on
page 7

ELECTRIC POWER AND ENVIRONMENTAL QUALITY. Owen H. Davis, Superv. Engineer, PG&E Company. LADIES NIGHT.

MAY 11, 7:30 PM, Tuesday, Engineers Club of San Francisco, 160 Sansome St., S.F. Social hour at 5:30; dinner at 6:30 PM. Reservations: Engineers Club (415) 421-3184 by May 11th.

**RELIABILITY
MAY 13**

Story on
page 7

MIL-STD-883: THE OTHER SIDE OF THE FENCE. James Feldt, Mgr., Quality Control Engineering, National Semiconductor Co.

MAY 13, Thursday, 8:00 PM, Stanford Lecture Hall PH 101. Dinner: 6:30 PM, Stanford View Restaurant, El Camino at Stanford Ave., Palo Alto. Non-members welcome. Reservations: Phil Guillot, 742-7026 by May 12th.

**SANTA CLARA
VALLEY SUBSECTION
MAY 10**

Story on
page 8

THE AUTOMATIC FARE COLLECTION SYSTEM FOR BART. James H. Slavin, Business Planning Mgr., IBM Fare Transactions Systems.

MAY 10, Monday, 8:00 PM, IBM Cafeteria, north end, Bldg. 011, Monterey & Cottle Rds., San Jose. Enter by Gate 2 at end of Blossom Hill Road. No dinner.

**SYSTEMS MAN
& CYBERNETICS
MAY 17**

Story on
page 8

THE CREATION AND EXECUTION OF PLANS BY A ROBOT SYSTEM. R. E. Fikes, SRI.

MAY 17, Monday, 8:00 PM, SRI, 333 Ravenswood Ave., Menlo Park. Dinner: 6:00 PM, Red Cottage, 1706 El Camino, Menlo Park. Reservations: Section office (415) 327-6622 by noon May 14th.

**VEHICULAR
TECHNOLOGY
MAY 18**

Story on
page 8

COMMUNICATIONS FOR AN OIL SPILL. R. B. Pearce, Asst. Mgr., Standard Oil Co., San Francisco.

MAY 18, Tuesday, 8:00 PM, Engineers Club of San Francisco, 160 Sansome St., S.F. Cocktails: 6:00 PM; dinner: 7:00 PM. Reservations: Miss Elizabeth Hudson (415) 894-3127 by May 17th.

**SAN FRANCISCO
SECTION
JUNE 4**

ANNUAL DINNER DANCE, honoring our 1971 Fellows and introducing new Section officers for 1971-72. Social evening.

JUNE 4, Friday at the Engineers Club of San Francisco, 160 Sansome St., S.F. No-host cocktails and hors d'oeuvres at 6:30, dinner at 8:00 PM, dancing till midnight. Tickets are available thru the Section office @ \$8.00 per person including tax & tip. Wine will be served with the dinner. Reservations: Palo Alto: Section office (415) 327-6622; San Jose (408) 291-4006, Mrs. Pat Conroy; San Francisco: 399-4974, Mrs. Rita Cohen, by June 1st.

THE ELECTROCHEMICAL SOCIETY

The Electronics division of the Electrochemical Society is planning the following symposia for the Spring Meeting, May 9-14, 1971 at the Sheraton-Park Hotel in Washington, D.C.

Semiconductor General Symposium (Materials, Processing, Dielectrics, Metallization) — Chairman: I. A. Lesk, Motorola Semiconductor, Phoenix, Arizona.

Luminescence General Symposium — Chairman: P. M. Jaffe, Zenith Radio R&D, Chicago, Illinois.

"Infrared Excited Visible Luminescence" — Chairman: R. Hewes, General Electric Lighting Research, Cleveland, Ohio.

"Plastics for Environmental Protection and Encapsulation of Electronic Devices" — Joint Symposium (Dielectrics and Insulation and Electronics Divisions) — Co-Chairmen: R. Olberg, Fairchild R&D, Palo Alto, Calif. and A. Pfahnl, Bell Labs., Allentown, Pa.

"New Techniques for Materials Characterization" — Joint Symposium (Electronics and Electrothermics and Metallurgy Divisions) — Chairman: V. A. Phillips, General Electric R&D, Schenectady, New York.

**AEROSPACE &
ELECTRONIC SYSTEMS**

The Aerospace and Electronics Systems Group will feature a tour of the Bay Area Rapid Transit System Yards at South Hayward on May 20 at 7:00 p.m.

The marshalling yard, sidings, train and car control console with train location identification may be seen, and the electronic routing simulation unit will be demonstrated.

Turn off Route 17 (Nimitz Freeway) if going South, at Industrial Parkway and proceed East to the BART Shops. If going North, turn East on Whipple to first stop sign, then north along Industrial Way to Industrial Parkway, turning East on Industrial Parkway to BART Shops.

Tour is limited to 50 persons. For the necessary reservations call Pat Hoppe, 326-4350, extension 6143 before May 18th.

ANTENNAS and PROPAGATION

Thursday, May 20th, has been designated "Wives Night" for the annual dinner meeting of the Group on Antennas and Propagation, to be held at Rickey's Hyatt House. Mr. N. Timothy Hall of the Department of Geology at Foothill College will speak on a subject of great interest to all Bay Area residents: "HOW TO LIVE WITH EARTHQUAKES."

The talk will begin with a discussion of the origin, nature and measurement of earthquakes. Slides of the San Fernando Valley will be used to illustrate the effects the recent "moderate shock" there had on the earth and man's structures. The possibility of a similar or larger shock striking the Bay Area will be explored along with suggestions of how an informed individual can protect himself, his family and property from quake damage.

Mr. Hall received his B.A. from Hamilton College and his M.A. from the University of California, both in Geology. He has been an instructor in that subject at Foothill since 1965 and also has experience as an Exploration Geologist. He is also active in the Geological Society of America. See Calendar for Meeting Details.

AUTOMATIC CONTROL

Stanford Professor William K. Linvill will present Technology and the Needs of Man at the May 18th meeting of the Automatic Control Chapter. Professor Linvill will focus on the systems approach to understanding technological change. In our present social structure technological change imposes great

stress on human beings to fit with technology. This whole process should be turned around. We should ask how technology can serve man and enable him to live a better life. The present situation calls for a combination of the drive TO DO with the drive TO UNDERSTAND. The revolution we are involved in is so drastic that DOING WITHOUT UNDERSTANDING would be futile. The opportunities are so great that UNDERSTANDING WITHOUT DOING would be dereliction. And, in interaction, one drive can stimulate the growth of the other. The purpose of the systems approach is to bring together previously separate foci under a single glass. It will UNITE existing disciplines; it will in no sense REPLACE them.

Prof. Linvill is concerned with problems of systems analysis and decision-making. The areas of application in which he has been involved range from computer-coordinated systems to long-range planning. Following award of his Doctorate, he was on the faculty at MIT. Since 1960 he has been a Professor of Electrical Engineering at Stanford University. In 1963 he became Chairman of the Institute in Engineering-Economic Systems where he established and continues to expand a systems training and research program featuring internship for graduate students. He is a Fellow of the IEEE. See calendar for details of meeting.

COMMUNICATION TECHNOLOGY

On May 18, the ComTech Chapter will hear J. J. Heinemann speak on 1800 CHANNEL HETERODYNE RADIO SYSTEM. The discussion will involve a long haul heterodyne radio system with respect to noise specifications, noise generating parameters, control of noise generating parameters and engineering problems encountered in designing an 1800 channel system.

The speaker, J. J. Heinemann, was with AT&T Longlines division for five years before joining GTE nine years ago. Mr. Heinemann is presently a supervising engineer in the Radio Products development group. He received his BSEE from the University of Colorado in 1962 and his MSEE from Stanford in 1966. See calendar for meeting details.

COMPUTER

At their May 25th meeting, the Computer Society Chapter will hear Dr. William R. Smith discuss "SYMBOL: A LARGE EXPERIMENTAL SYSTEM EXPLORING MAJOR HARDWARE REPLACEMENT OF SOFTWARE." The SYMBOL system is the result of a major developmental effort to increase the functional capability of hardware. Part of the charter of the broad-based project was to re-examine the traditional division between hardware and software, to re-examine the respective roles

of program instruction and data storage, and to reduce the overall complexity and cost of computing. In order to adequately evaluate the concepts that had been developed it was concluded that an experimental, usable, real system must be built. The SYMBOL system, now operational, is the embodiment of this effort.

The presentation will cover highlights of the SYMBOL language and architecture with emphasis on the significant departures from conventional methods.

Dr. Smith received his B.S. in Electrical Engineering from Colorado State University in 1960 and his MS and Ph.D. in Electrical Engineering from Iowa State University in 1961 and 1963 respectively. In 1963 he joined the Digital Systems Research Department of the Fairchild Research and Development Laboratory. From 1965 through 1970 he served as project manager for the SYMBOL system development. He presently is associate director of the Memory Systems Effort at Fairchild.

This will be an election meeting. Come and vote for your 1971-72 officers. See calendar for details of meeting.

EAST BAY SUBSECTION/ GOLDEN GATE SS

The story of Apollo 14 will be the subject of the joint meeting of the East Bay Subsection, the Golden Gate Subsection and the San Francisco Section on Monday, May 24. The speaker will be Mr. Bradford A. Evans, Public Affairs Officer for the National Aeronautic Space Administration's Ames Research Center at Moffett Field.

Mr. Evans' talk will cover the lunar landing mission in detail from launching through moon landing and return and will include film and pictures taken on the moon.

Mr. Evans received his BS and MS degrees from Boston University. He started in the missiles and space program in 1948. Mr. Evans went to Cape Canaveral in 1949 to organize and operate the public information program for the country's first long-range missile launching facility. He is a member of the AIAA.

The dinner and meeting will be held at the Engineers Club of San Francisco. Wives and guests are invited. A large attendance is expected, so make reservations early. See calendar for details.

ELECTROMAGNETIC COMPATIBILITY

The topic of discussion at the May 17th meeting of the Electromagnetic Compatibility Chapter will be "MIL-

LSI MEMORY TUTORIAL SYMPOSIUM

A one-day LSI MEMORY TUTORIAL SYMPOSIUM will be presented on June 8, 1971, by the San Francisco chapters of the IEEE Computer Society and the Electron Devices Group. The purpose of the symposium is to familiarize both the component and system design engineer with the design and applications of LSI memory.

Dr. Frank Greene, Fairchild, program chairman, will give an overview of the LSI memory area. The other topics for the symposium will include:

1. Memory components and technology by Dr. Gordon Moore, Intel;
2. Memory systems organizations by Prof. Dave Hodges, U.C. Berkeley;
3. Overall memory considerations by Dr. Wendell Sander, Fairchild;
4. Logic from memory by Dr. Bill Davidow, Signetics Memory Systems.

The meeting will be held at the Jack Jar Hotel, San Francisco, on Tuesday, June 8, 1971. Lunch, coffee and lecture notes are included in the registration fee.

The registration fees are:

	Before 17 May	After 17 May
Student	\$10.00	\$15.00
IEEE Computer Society or IEEE Electron Devices Group	\$15.00	\$20.00
Non-Member	\$20.00	\$25.00

Send name, address with check payable to IEEE MEMORY SYMPOSIUM

to:
Ken Krossa, Symposium Treasurer
Signetics Memory Systems
740 Kifer Road
Sunnyvale, Calif. 94086

STD 461/462: Contractural and Testing Considerations." At the present time approximately 80% of all military and aerospace electronic hardware contracts specify conformance in a general sense to MIL-STD 461 and 462. These standards present, respectively, various EMC test (and design) requirements and test apparatus, and procedures to be followed by the equipment vendor. But these documents do not constitute an exact specification in the sense that MIL-I-6181D and other now obsolete documents once had. Instead, these tests and documentation requirements which apply directly to a given type and item of equipment must be selected from a long list of tests many of which won't apply. For the engineer given the responsibility of either performing or overseeing the performance of these tests, there will be questions of what equipment will be required by some of the more difficult and costly tests and what test agencies are available to perform the tests for him.

The meeting will feature brief presentations by experienced engineers on various important considerations of MIL-STD 461/462 and will include a long open discussion where questions may be asked from the floor on any aspect of the subject documents. See calendar for details.

ELECTRONIC DEVICES

On May 18th, the ELECTRON DEVICES GROUP will hear Joseph D. Taynai speak on LIGHT EMITTING DIODES. Electroluminescence is the conversion of electrical energy to optical energy in a solid. The simplest way to achieve this is to forward bias a p-n junction, so every semiconductor diode is potentially a light emitting diode.

These simple devices have found application as visible displays, optical couplers, and as narrow band sources of infrared and visible radiation. Both incoherent and laser diodes have been produced from a larger number of semiconductor materials.

The talk will cover general luminescence in semiconductors, characteristics of incoherent and laser diodes, materials and material growth, the problem of getting the light out, and applications.

Joseph D. Taynai studied at the California Institute of Technology, where he received his Ph.D. in 1969. His graduate work was in electrical and optical properties of semiconductors and insulators.

Since 1970, he has been engaged in research and development in the Electro-Optics Organization of Sylvania in

Mountain View, California. He has worked on light emitting diodes, photo-emission, and infrared second harmonic generation. See Calendar for details.

ENGINEERING MANAGEMENT

The Engineering Management Chapter is extremely pleased to present as its May 12th meeting speaker, Stanford University's Football Head Coach, John Ralston, who will provide not only outstanding football entertainment but also significant people-motivating insights important to all managers working for significant achievements. Since it is seldom possible to so effectively combine meeting business with pleasure, especially for both younger and older "boys" meeting together, we look forward to a thoroughly enjoyable and well-attended Father & Sons Night meeting.

John Ralston, in his eight years at Stanford, has (1) returned Indian football to national prominence, coached seven straight non-losing seasons, (2) upset previously unbeaten Ohio State's best-ever Buckeyes in '71 Rose Bowl, won '71 Hula Bowl, & '65, '69 East-West Games, (3) beaten his alma mater, CAL, six times, including an unprecedented four straight, (4) compiled an impressive 46-33-3 record, including 13-7-1 against tough intersectionals, and (5) been voted Coach-of-the-Year, 1970. He played in two Rose Bowl Games, has an outstanding overall major college 11-year head coaching record of 77-44-4, and has been a popular speaker at countless football clinics and public gatherings both in the U.S. and overseas.

ENGINEERING MANAGEMENT ELECTIONS

Following the Sports Program, written ballots (from a previous mailing to all Local Engineering Management members) will be accepted and counted. New '71-'72 officers will then be announced. See Calendar for details.

ENGINEERING IN MEDICINE & BIOLOGY

At the May 11th IEEE GMB meeting, a new technology system which has been developed that can detect as little as one-billionth of a gram of hard drug in the body will be discussed. Potentially, this system appears to be valuable in a growing number of drug addiction treatment centers, hospitals, and police departments throughout the country. Mr. William E. McGlashan, presently Business Director of Synvar Associates in Palo Alto, California, will describe the developmental technology, operation, and impact of this new system.

Following the technical presentation,

a brief business meeting will be held during which time election of officers for the year 1971-72 will be conducted by written ballot supplied at the meeting.

Robert Silligman (Honeywell Inc.)

..... Chairman

Manny Furst (Hewlett Packard)

..... Vice Chairman

Harry Silcocks

(Lawrence Radiation Lab)

..... Secretary

Carl Simpson

(Stanford University Hospital)

Paul Griffith (Varian Associates)

..... Opposed for Treasurer

L. D. Prehn (Pacific Tel. & Tel.)

..... Membership Chairman

A pre-meeting, no-host dinner will be held at the Red Cottage Restaurant in Menlo Park at 6 PM. This is a good opportunity to meet the speaker and the new Group Chapter officer nominees. See Calendar for details.

INFORMATION THEORY

On May 20th, the INFORMATION THEORY GROUP CHAPTER will hear Dr. F. D. Natali speak on "Real Time Digital Processing Techniques Applied to Communications Receivers."

Dr. Natali is presently employed by Philco-Ford Corporation in the Communication Sciences Department, where he has been active in the formulation and analysis of digital equivalent and spread spectrum receiver techniques. Previous employment was with Cornell Aeronautical Laboratories from 1961 to 1967 and with Sylvania Electric Products from 1960 to 1961.

He received the BEE from Rensselaer

(Continued on page 7)

ANNUAL DINNER DANCE HONORING

OUR 1971 FELLOWS AND INTRODUCING NEW SECTION OFFICERS

FRIDAY, JUNE 4, 1971
ENGINEERS CLUB OF
SAN FRANCISCO

160 SANSOME STREET
COCKTAILS - 6:30 PM

DINNER - 8:00 PM

DANCING 'TILL MIDNIGHT

RESERVATIONS & TICKETS AT
\$8.00 Per Person. TABLES can be
arranged thru Mrs. Jean Helmke.
Palo Alto, Section Office

Phone: 327-6622

San Jose - Mrs. Pat Conroy

291-4006

San Francisco - Mrs. Rita Cohen

399-4974

SUBSECTIONS' NOMINEES



F. G. Doell



James A. St. Arnaud, Jr.



Jack M. Shulman



Bryan R. Baarts



J. A. Wells



Leon C. Glahn



O. Thomas Purl



Raymond A. Power



Robert A. Martin



Phillip H. Simpson

EAST BAY SUBSECTION

G. DOELL FOR CHAIRMAN

Senior Engineer, Chief Engineer's Protection Group, Pacific Telephone Co., Subchairman of S.F. Section Membership Com., Program Chairman for EBSS. Currently Subsection Secretary.

HADI MONSEF FOR VICE-CHAIRMAN

Senior Engineer, Power & Ind. Div., Bechtel Corp. IEEE Member Denver & Sacramento. Formerly Membership, Subsection & Student Activities Chairman, Sacramento. Presently Public Relations & Publicity Chairman, SF Section. '70 Award, Outstanding Service, Sac. Section.

JAMES A. ST. ARNAUD JR. FOR SECRETARY

Engineer in Protection & Quality Group, Transmission Engineers, Chief Eng. Dept. of Pacific Telephone, S.F. Member of IEEE.

J. H. PARKER FOR TREASURER

Senior Engineer-Underground, General Office T&D Operations Dept. of PG&E. Presently Superintendent, Elec. Oper. East Bay Div. Member of Power Society.

GOLDEN GATE SUBSECTION

JACK M. SHULMAN FOR CHAIRMAN

Fellow District Engineer, Power Systems, S.F. Field Sales Office of Westinghouse. Formerly Engineering Mgr. Electrical Products, Westinghouse, Sunnyvale Plant. Ohio State Univ. Grad. MSEE Degree, Univ. of Calif. Member AIEE 1940. Served as Sec'y/Chairman, Santa Clara Valley Subsection. Senior Member IEEE. Now Subsection Vice-Chairman

BRYAN R. BAARTS FOR VICE-CHAIRMAN

Engineering Dept. at PG&E., Stanford Grad. with BSEE Degree. 2 yrs. U.S. Army Missile Test Project. A member of the Power & Insulation Groups, Pacific Coast Elec. Assoc., and the Electric Club. Current GGSS Secretary.

J. A. WELLS FOR SECRETARY

President of Artwell Elec. Inc., Senior Member IEEE. Formerly SCVSS Chairman. Nat'l Member-at-Large of I&GA Group. Currently, GGSS Treasurer.

LEON C. GLAHN FOR TREASURER

Chief Elec. Engineer, Bechtel Corp., S.F. Chairman S.F. Chapter, IGA Group. Member Power Systems Analysis Subcommittee, IGA. Systems Analysis Working Group, IGA.

SANTA CLARA VALLEY SUBSECTION

O. THOMAS PURL FOR CHAIRMAN
Vice-President, Devices Group, Watkins-Johnson Co. Dr. Purl is now Vice-Chairman of subsection.

RAYMOND A. POWER FOR VICE-CHAIRMAN

Advisory Engineer at IBM Systems Devel. Div. Lab., San Jose. Senior Member IEEE. Is now Secretary of subsection.

ROBERT A. MARTIN FOR SECRETARY

General Traffic Engineer for Central Counties Area of Pacific Telephone. Senior Member of IEEE. Is now Treasurer of subsection.

JOHN F. OSBORN FOR TREASURER

Engineer in Advance Design Engineering, Nuclear Engineering Div. of General Electric Co. Arrangements chairman for Nuclear Science and Nuclear Power Systems symposiums.

PHILLIP H. SIMPSON FOR TREASURER

Engineer in Broad Microwave Planning, Pacific Telephone Co. Member of SCVSS Excom. and SCV joint Engineers Council.

Polytechnic Institute in 1960 and the MS and Ph.D. degrees in 1964 and 1967 respectively from the State University of New York at Buffalo.

Integrated circuit state-of-the-art is such that it is now feasible in many applications to replace conventional analog receiver circuits with equivalent digital operations. Some algorithms for performing phase-locked bandpass sampling, FM discrimination, bit synchronization, and PSK data detection will be discussed. Implementations for key items will be suggested and the effects of prefilter bandwidth, sample rate, and amplitude and frequency quantization will be presented. An all-digital PSK receiver implemented at Philco-Ford will be described. See Calendar for details.

MAGNETICS

The technical papers presented at the International Magnetism Conference in Denver, Colorado, April 13-16, 1971, will be reviewed on May 18 at the Magnetism Chapter meeting to be held at HP Co. in Santa Clara.

The review panel will be composed of members of the SF Section Magnetism Chapter who attended the conference. James Eaton, Hewlett-Packard Co., will be the moderator.

Subjects of interest will include new materials for recording heads; magnetic recording media, techniques and theory; home video recording techniques; progress in magnetic bubble device development and materials; magneto-optics; and magnetic memory systems. See Calendar for details of meeting.

MICROWAVE THEORY & TECHNIQUES

On May 12th, the MTT Chapter will hear Robert Wenzel discuss COMPUTER SYNTHESIS OF MICROWAVE FILTERS. At present, there are two methods commonly used by engineers in applying the digital computer to microwave network design. The first method is primarily analysis. The second method uses the capability of the computer to carry out the large number of numerical calculations required. Both of the above methods can constitute a practical design procedure. The analysis approach might be described as "sophisticated trial-and-error."

These methods, however, give little indication as to whether ultimate performance has been achieved. On the other hand, synthesis converges directly toward the solution by following a set of well-defined mathematical procedures. It usually yields the optimum re-

sult, and often gives detailed information on the theoretical limitations of broad classes of physical networks. This presentation will deal primarily with the application of the digital computer to microwave network synthesis. Emphasis will be given to the basic concepts of the approach rather than to mathematical details.

Mr. Wenzel received his MSEE degree from MIT under an Alfred P. Sloan Fellowship. He is a member of IEEE Groups on MTT and Circuit Theory and other professional honor societies. He is recipient of the G-MTT Microwave Prize in 1967. He holds two patents, and is author of numerous technical papers in the microwave field. See calendar for details of meeting.

NUCLEAR SCIENCE

Members, wives, friends and all interested persons are invited to the meeting on May 18th which begins with wine tasting at the Concannon vineyards.

Dinner and a talk on the role of the Lawrence Radiation Laboratory in the solution of air pollution problems will follow the wine tasting. Dinner will be held at Hap's Restaurant in Pleasanton.



Carroll Maninger, a former Nuclear Science Chapter Chairman, who is with LRL, will be the speaker for the eve-

ning. The results of the election of officers for the coming year will be announced.

Those unfamiliar with the fine quality of the Concannon wines will have an excellent opportunity to combine business with very fine pleasure. See Calendar for details.

POWER SOCIETY

Ladies Night at the Power Society meeting will feature Owen H. Davis speaking on one of the most pressing issues of our times — the maintenance and improvement of our California environment.

Mr. Davis has been newly appointed to the position of Supervisor, Environmental Quality at PG&E Company. He has had ten years experience in various environmental positions with the Government and two years in industry before joining PG&E.

He holds a Bachelors Degree in Physics and Masters degree in Environmental Health and Public Works Engineering Administration.

Make a date with your lady for May 11th and make reservations for dinner at the Engineers Club of S.F., phone 421-3184. See Calendar.

RELIABILITY

The Reliability Group will feature, for its May meeting, a talk entitled "MIL-STD-883, THE OTHER SIDE OF THE FENCE," by James Feldt, Quality Control Engineering Manager, National Semiconductor Corporation. Why this specification was originated, what it is designed to do, and the more important methods within 883 will be covered. Since National has been one of the in-

POWER SOCIETY SUMMER MEETING

The IEEE Power Engineering Society 1971 Summer meeting and International Symposium on High Power Testing will be held in Portland, Oregon, at the Portland Hilton Hotel from July 18 through 23, 1971. General Chairman of the event is Louis N. Stone, Electrical Engineering Department, Oregon State University, Corvallis, Oregon.

More than 200 papers will be presented at the many technical sessions to be held during this 5-day meeting. Besides the technical programs, several inspection trips have also been planned, highlighted by an overnight trip to Grand Coulee Dam, Washington, on Thursday, July 22, and returning to Portland Friday, July 23. Here will be seen under construction the third power house, which will increase the capacity of Grand Coulee Dam and put it back on the map as the world's largest power generating plant.

Several social events for the evening hours are being planned. They range from night club entertainment to an outdoor, western barbecue at a ranch near Portland with entertainment by the New Oregon Singers.

Further details may be obtained from Don R. Selden, Publicity Chairman, Portland General Electric Company, 621 S.W. Alder Street, Portland, Oregon 97205.

dustry's leaders in implementing this tough I.C. spec, Mr. Feldt is very aware of its impact on device Reliability.

MIL-STD-883 is entitled "Test Methods and Procedures for Microelectronics." After a trial period since 1968, this document has just recently been made mandatory thru invocation of MIL-M-38510, "General Specification for Microcircuits." Its contents have elicited very definite responses from both supplier and device users.

James Feldt has spent eleven years in the semiconductor industry, having been with Motorola and Fairchild before assuming his present position of Quality Control Engineering Manager with National Semiconductor. He has authored articles and presented papers at numerous reliability and packaging symposiums. Mr. Feldt is a member of the EIA Committee on Integrated Circuit Device Screening and Testing.

Non-IEEE members are welcome and no reservations are required for the meeting. The "Meet the Speaker" dinner will be held at 6:30 PM at the Stanford View Restaurant. Call Phil Guillot at 742-7026 if you plan to attend the dinner.

SANTA CLARA VALLEY SUBSECTION

On May 10th, the SANTA CLARA VALLEY SUBSECTION will hear James H. Slavin speak on "THE AUTOMATIC FARE COLLECTION SYSTEM FOR BART."

An advanced transportation system being built by BART would naturally use a modern approach to fare collection. Such a system has been designed by IBM under contract with the Bay Area Rapid Transit District and will be described by Mr. Jim Slavin on May 10, 1971.



The key to collection system is a ticket, the size of a credit card, containing a magnetic stripe on which is recorded the ticket value and other information required for ticket processing in the fare collection equipment. The unused

value of the ticket, which may be as high as \$20, is printed on the ticket after each use. Mr. Slavin will describe a complete system for ticket sales, gates, add fare machines, money changers and station agent readers. The meeting will be held at 8:00 PM in the north end of Bldg. 011 (cafeteria) at the IBM plant-site at Monterey and Cottle Rds. (See calendar details.) The meeting will be preceded by a short business session to elect Subsection officers. See Calendar for details.

Mr. Slavin joined IBM in 1957 upon graduation from Purdue University with a BS degree in electrical engineering. He has been associated with the BART Fare Collection System project since September, 1969.

ASILOMAR CONFERENCE

Papers are being solicited for the Fifth Asilomar Conference on Circuits and Systems to be held in Pacific Grove, California, November 8-10, 1971. The Conference is sponsored by the University of Santa Clara and the Naval Postgraduate School.

Authors are invited to submit papers describing original research development and new ideas in the general areas of circuit and system theory. Authors should submit, in duplicate, a 250-word summary headed by a title, name(s) of author(s) and affiliations typed on white paper with 1½" margins before AUGUST 1, 1971. Separate page giving the name and address, where all correspondence should be sent, should be attached. Authors will be notified of acceptance before September 1, 1971. Please send all manuscripts to PROF. S. G. CHAN, DEPARTMENT OF ELECTRICAL ENGINEERING, NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIFORNIA 93940.

SYSTEMS MAN & CYBERNETICS

Dr. R. E. Fikes will describe the design of a new problem-solving program at the May 17 meeting of the Systems Man & Cybernetics Chapter. The program, called STRIPS, is being used as the planner for the Stanford Research Institute mobile automaton. In addition to a sequence of actions, a STRIPS plan contains information that allows monitoring of the plan's execution. STRIPS represents a world model as an arbitrary collection of first-order predicate calculus formulas and is designed to work

with models consisting of large numbers of formulas. It employs a resolution theorem prover to answer questions of particular models and uses means-ends analysis to guide it to the desired goal-satisfying model.

Dr. Fikes has a Ph.D. in Computer Science from Carnegie-Mellon University and both an MA and a BA degree in mathematics from the University of Texas. He spent a post-doctoral year at Carnegie-Mellon working with Prof. Allen Newell before assuming his present position in the Artificial Intelligence Group at SRI. See Calendar for details of meeting.

VEHICULAR TECHNOLOGY

On May 18, the Vehicular Technology Chapter will hear R. B. Pearce discuss COMMUNICATIONS FOR AN OIL SPILL EMERGENCY. Nowhere in petroleum industry are oil spills intentional. However, even with utmost precautions an accident can result in an undesired spill situation. A typical example is the situation created on the early morning of January 18 when two oil tankers accidentally collided in dense fog under the Golden Gate Bridge. Action had to be organized and put in gear to control and clean up over one half million gallons of No. 2 bunker fuel oil.

Successful communications became a very important foundation for operations. A UHF mobile relay system with 50 hand portables formed the field backbone communications system. Before the worst was over, 7 radio nets had been installed and more than 60 emergency telephones were pressed into operation. Color slides will illustrate the sequence of events.

Mr. Pearce graduated from the Texas A & M University. He was among the first EE graduates to obtain a degree in electrical engineering, specializing in communications. During his college days, and for a short period afterward, he was a radio engineer in the broadcasting industry. After WW II, Mr. Pearce joined the Standard Oil Co. for service as a communications officer, assignments in South America, Texas and California. At the present time, Mr. Pearce is the Assistant Manager and Chief Engineer of the Telecommunications Dept. for Standard.

He is a member of several professional engineering activities. He was General Chairman of the 1964 SF Petroleum Industry Conference for IEEE. In addition, he recently was the Publicity and Public Relations Chairman for the 1968 IEEE VTG Conference. See calendar for meeting details.