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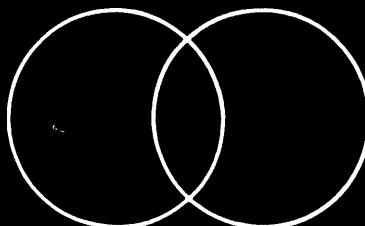
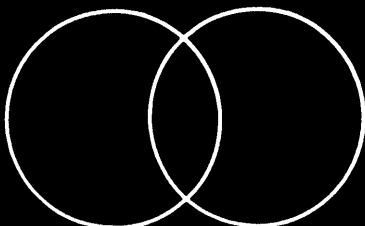
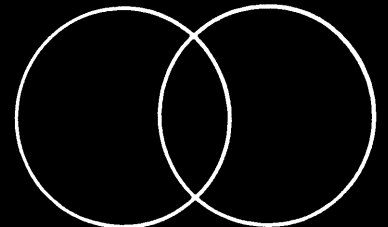
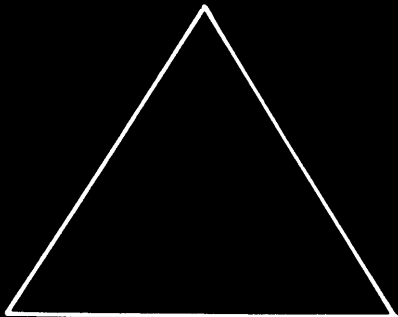
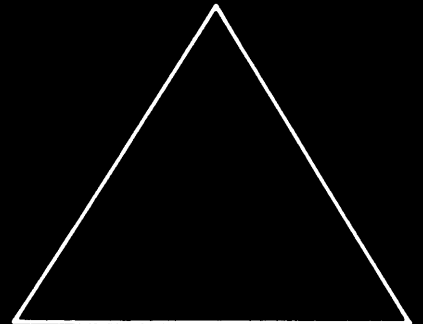
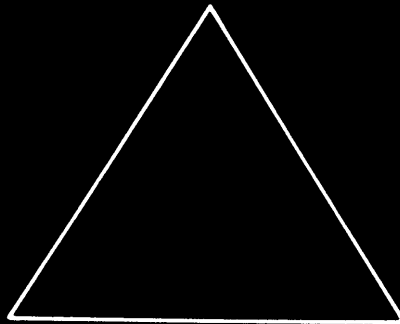
LOS ANGELES

# engineer/scientist

LATSC COUNCIL BULLETIN

AUGUST, 1966  
VOL. 5 NO. 8

S.A.V.E.—WESCON  
AUGUST 22-26  
LOS ANGELES



# NEWS IN FOCUS



OFFICERS OF THE Pylon Division of the American Society of Civil Engineers are, from left, Frank Swift, board member; Jack Woofan,

chairman; Walter Burns, vice chairman; Harry Mason, board member, and Dwight Jerlow, secretary-treasurer.



MEETING FACE to face are old and new officers of the San Gabriel Valley Chapter of the Society of Aerospace Materials and Process Engineers. From left are past secretary Ralph Graves; past junior national director and incoming senior director Bill Bock; outgoing chairman Vince Ord, who will be the new junior national chairman; incoming chairman Merle Sanger; new treasurer Dick Bolliger and incoming secretary David Robbins.



A MEMBERSHIP GRAPH of the Gas Appliance Engineers Society brings a pained expression to the face of Milo Dudden, new president of the society. That long line he's pointing to is the projected membership drive goal during his term in office. Bob Hughes, outgoing president who set the existing membership record, seems to be enjoying the situation. Also in the photograph are incoming officers Harold Cole, treasurer; Vince Garni, trustee; Bill Stone, trustee, and Charles Fields, secretary.



IT WAS A MOMENT of transition for the Society of Aerospace Materials and Process Engineers, Orange Empire Section. Past chairman Dave Ditman turns the chair over to Gene Mooring with a handshake. In the back row, from left, are Hal Newman, past senior director; Dr. Jay

Erikson, scholarship chairman; Sandy Ashlock, senior director; Dr. Nina Luke, vice chairman; Carol Green, secretary; Dick Wymer, past vice chairman; Norris Boyamer, treasurer; Gene Sullivan, membership chairman.

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# LOS ANGELES engineer/scientist LATSC COUNCIL BULLETIN

Published monthly by  
Melrose Publishing Co., Inc.  
706 North La Cienega Blvd.  
Los Angeles, Calif. 90069 • (213) 657-4780

Correspondence regarding  
advertising, editorial or subscriptions  
should be mailed to the above address.

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**CLOSING DATES:** Editorial Deadline is 10th day of the month preceding month of issue. Advertising forms close the 5th of the month preceding month of issue.

**SUBSCRIPTIONS:** Students and Society Chapters \$1.00 per year per member.

**CHANGE OF ADDRESS:** To change address, send old mailing label together with new address. Allow 30 days for change to become effective.

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Standard Engineers Society  
Structural Engineers Association of Southern California

## ON THE MOVE

E. E. LANDFELD, formerly with Operations Research, Inc., Johns Hopkins Applied Physics Laboratories and Hermes Electronics Company, has been appointed director of administration for Informatics Inc., Van Nuys.

**JUD MORRIS**, head of J. W. Morris and Associates, has been retained by Microdot, Inc., Pasadena. Part of the service he is producing for the company, Morris says, is a "PROfessionalism PROgram" to train key personnel to best utilize their abilities.

The addition of Morris to the staff is reportedly the direct effect of increased production demands being made on Microdot, Inc.

**JACK MILLER**, former mechanical engineer for the Plumbing Industry Progress and Education Fund, has joined Warren Steele and Associates, Inc., consulting mechanical engineers, Los Angeles, as a vice president to provide for increased client relationships.



Miller

**FRED H. SCHABERG**, formerly controller of Micro-Mega Corp., Venice, has joined Space Ordnance Systems, Inc. as controller. Schaberg is a member of the American Management Association.

**STANLEY B. AUSTERMAN**, research specialist at Atomics International, was recently named a fellow of the American Ceramic Society for his contributions in the field of ceramics.

**JAMES C. COCHRAN**, director of process development and manufacturing, Atomics International, is being sent to Japan as project engineer for a uranium fuel plate contract signed recently by AI.

**DR. JUDEA PEARL** was recently appointed director of advanced memory devices for Electronic Memories, Hawthorne. Previously he was with RCA's David Sarnoff Research Center, Princeton, N.J.

**WILLIAM B. RIEKE**, former president of Lockheed Aircraft International, Inc., Los Angeles, has been appointed acting assistant administrator for administration by NASA. In his new office he will direct all NASA's administrative and management support activities.

**GEORGE VOSATKA** has been installed as vice president of marketing at Informatics Inc., Sherman Oaks. He was formerly with Western Operations of Computer Usage Co., Inc.

## Management Seminar Open

Registration in the American Institute of Chemical Engineers' series of five management seminars which begin Sept. 14 is currently available. The fee for all five seminars is \$15, payable to AIChE and may be sent to Gene Claypool, AIChE Treasurer, Union Oil Co., P.O. Box 76, Brea, Calif.

The two-hour evening seminars are to acquaint engineers with modern

supervisory and management tools and methods. More information is available by calling Sam Kiguchi, (213) 282-1131. Enrollment is limited.

## Soils Group Election Set

The Soils Mechanics Group of the American Society of Civil Engineers, Los Angeles Section, will hold its election of officers Sept. 21 at the Engineers Club, Biltmore Hotel, 515 Olive St., Los Angeles.

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## THE CALIFORNIA INVESTOR

By **STANLEY J. WEISS**

President, Intercontinental Properties.

During the past several months the papers have been filled with stories about higher interest rates, tight mortgage money, etc. The result of this adverse economic publicity has been a fluctuating stock market, and a reticent buying public.

"Now is the time to buy" is an historic quote and the reason I mention it is because of our famous Real Estate Organization — the "I could have and I should have club".

Many people have told me they never had a good opportunity. I tell them that opportunities are around all the time. However, to be successful you must be able to recognize an opportunity when it presents itself, and then grab it, hold on to it, and derive every benefit it offers.

Such an opportunity is presented to you, right now. Due to the conditions of "tight money", real estate investing is now in the position, for the first time in many years, of being a true buyers market. By that I mean, the general public is keeping its money in savings, waiting for the economic scare to pass.

In my opinion, a great deal of money will be made during the next few months by investors who take advantage of the brief opportunity to buy selected acreage at attractive prices and terms.

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**CONGRATULATING** past president Glen Hart for the work he did in laying the foundation of the symposium scheduled Aug. 22-23 is current president Henry Pardo. From left the officers and directors of the Society of American Value Engineers are Pardo, of Bendix Pacific; Frank



T. Zuch, of Lockheed, treasurer; Bob Seifing, of Aerojet General, director; Hart, of Aerojet General; Burke Cochran, of TRW Systems, director; and John Flentz, of North American, vice president.

## SAVE — What It Is, Where It's Heading

by Glen Hart

Director and past president of the Society of American Value Engineers.

How do you promote desirable change in industry, products, and operation. How do you accelerate the desirable change process? How do you remove unnecessary cost? How do you continually improve the trade-offs between performance and cost?

For the last 15 years the most popular method of dealing with these perpetual problems in industry, and now in government, has been the Value Engineering program. Steadily advanced from an origin in commercial industry to the Department of Defense, and to state and city government operations, a whole new discipline entitled Value Engineering materialized. A national society entitled Society of American Value Engineers was formed with appropriate acronym of SAVE.

A further natural development of the value engineering concept, takes place August 22 and 23 at the Ambassador Hotel in Los Angeles in the form of Value Engineering symposium with the WESCON Trade Show. It's a most natural marriage.

The Value Engineering symposium presents the latest developments in promoting and accelerating desirable change. The trade show introduces new products, new materials, and new methods.

This symposium is a must for all industry and government operations interested in the latest information on reducing costs, whether they be operating or design. The broad categories which will be covered per the following agenda are:

1. Value Engineering in Defense Industry
2. Value Engineering in State and Municipal Government
3. Value Engineering in Systems Engineering

As a relatively new discipline in the engineering field there is some con-

fusion about the purpose of value engineering. It is this vagueness about value engineering the society is working to dispel.

In Los Angeles SAVE offers an active program which consists of value engineering speakers available to other technical societies; sponsorship of professional courses in value engineering at accredited universities, worldwide distribution of literature to persons interested in value engineering; and a year program and colloquiums, joint technical meetings and seminars, and active participation in LATSC.

These activities almost parallel the four main points which are the goals of the national society. Simply stated these goals are:

- 1.) To create a cost awareness in the community about achieving maximum value at minimum cost.
- 2.) To establish a climate for the exchange of ideas and methods among professional people in value engineering.
- 3.) To assist in the development of new people who will enter the field.
- 4.) To establish a meeting ground with personnel working in related areas.



**GLEN HART**, past president and director of the Society of American Value Engineers, discusses the upcoming SAVE symposium with **George E. Fouch**, deputy assistant secretary of defense.

# SAVE ENGINEERING SYMPOSIUM AUGUST 22-23

Profit is to be the key to the Society of American Value Engineers Symposium being held in relation to the WESCON show August 22-23 at the Ambassador Hotel.

How to profit from value engineering in military and government contracts, how to profit from it in your own business or your own field of government activity is the question scheduled for the strongest consideration.

Presenting the latest developments in how to promote and accelerate change for cost reduction in all areas, the essence of the symposium is to be practicability and useability.

Arranged in 18 sessions the symposium draws from a nation-wide list of top value engineering people. A

## Miles To Be Honored

Larry D. Miles, one of the primary founders of value engineering as a distinct discipline, will be the honored guest of the Society of Value Engineers during the S.A.V.E./WESCON show in Los Angeles this month.

particularly keen eye has been kept on the selection of speakers to keep the sessions on a practical level.

Many of the men presenting ses-

sions, such as George E. Fouch, deputy assistant secretary of defense; Everett Knickerbocker, head of value analysis, Ammunition Procurement and Supply Agency; and Brig. Gen. Arthur E. Exon, director, Defense Contract Administration Service Region, Los Angeles, have a direct hand in government procurement and standards.

On the other hand, many of the civilian oriented speakers serve the same function for prime contractors.

The symposium dove-tails into the WESCON show with SAVE opening Aug. 22 and continuing the first day of WESCON, Aug. 23.

## TECHNICAL PROGRAM

### Morning Session/Monday, August 22

9:00 a.m. (Ambassador Ballroom)

1/ VALUE ENGINEERING INCENTIVES — PROFIT IN ACTION. George E. Fouch, Deputy Assistant Secretary of Defense, Equipment Maintenance and Readiness.

9:30 a.m. (Ambassador Ballroom)

2/ DEVELOPING AND SUSTAINING MULTI-PLANT VALUE ENGINEERING PROGRAM. Everett Knickerbocker, Head of the Value Analysis Office, Ammunition Procurement and Supply Agency.

10:00 a.m. Coffee Break

10:30 a.m. (Ambassador Ballroom)

3/ A JOINT VENTURE IN VALUE ENGINEERING BY D.O.D. AND A CONTRACTOR. Maj. Gen. Earl C. Hedlund, Commander, Warner Robins Air Materiel Area, Georgia.

11:00 a.m. (Ambassador Ballroom)

4/ COMPLEX FUNCTION VALUE DETERMINATION. Morgan D. Roderick, Manager, Value Engineering, Naval Ship Engineering Center, Washington, D.C.

5/ CONCEPT AND OPERATION OF THE D.O.D. VALUE ENGINEERING SERVICE OFFICE. Richard E. Biedenbender, Director, D.O.D. Value Engineering Services Office, Alexandria, Virginia.

### Luncheon Session/Monday, August 22

12:15 p.m. (Cocoanut Grove)

6/ VALUE ENGINEERING IN THE D.C.A.S. REGION. Speaker: Brig. Gen. Arthur E. Exon, Director, Defense Contract Administration Service Region, Los Angeles.

### Afternoon Session/Monday, August 22

1:30 p.m. (Ambassador Ballroom)

7/ PRIME VIEW OF VALUE ENGINEERING INCENTIVES. Ken Gay, Executive Director, Material Division North American Aviation Inc., El Segundo, California

2:00 p.m. (Ambassador Ballroom)

8/ INTEGRATING VALUE ENGINEERING INTO SYSTEMS MANAGEMENT. W. E. Mesh, Manager, Value Engineering, IBM Corporation.

2:30 p.m. (Ambassador Ballroom)

9/ VALUE ENGINEERING AND ITS RELATION TO SYSTEM EFFECTIVENESS. Ivar M. Holiday, Manager of Operations Center, TRW Systems, Redondo Beach, California.

3:00 p.m. (Ambassador Ballroom)

10/ VALUE ENGINEERING IN STATE AND MUNICIPAL GOVERNMENT. Robert J. Gillespie, Headquarters Staff Coordinator, Value Engineering and Services, Sylvania Corp.

3:30 p.m. (Ambassador Ballroom)

11/ VALUE ENGINEERING IN THE STATE OF MASSACHUSETTS. Robert Lovell Yasi, Executive Assistant to Commissioner of Massachusetts Department of Resources, Chairman of Massachusetts Value Engineers Commission.

4:00 p.m. (Ambassador Ballroom)

12/ DEVELOPMENT OF PENNSYLVANIA'S COST REDUCTION PROGRAM. Arthur Sampson, Deputy Secretary of Procurement, Property and Supplies, Commonwealth of Pennsylvania.

4:30 p.m. (Ambassador Ballroom)

13/ APPLYING VALUE ANALYSIS TO STATE GOVERNMENT OPERATIONS. John W. Bryant, Director of Harbridge House Value Engineering Service Group.

### Dinner Session/Monday, August 22

7:00 p.m. (Sunset Room)

14/ HOW THE NASA CONTRACTOR COST REDUCTION PROGRAM WORKS. Speaker: Brooks Preacher, Head of the Office of Cost Reduction, NASA.

### Morning Session/Tuesday, August 23

8:30 a.m. (Ambassador Ballroom)

15/ VALUE ENGINEERING AS APPLIED TO DEVELOPMENT AND ENGINEERING ACTIVITIES. William Kauf, Chief, Value Analysis Office, Picatinny Arsenal, Dover, New Jersey.

9:00 a.m. (Ambassador Ballroom)

16/ COMMUNICATING THE VALUE ENGINEERING MESSAGE. E. T. O'Connell, Editor and Publisher, *Cost Reduction Digest and Value Engineering Guide*, Washington, D. C.

9:30 a.m. Coffee Break

10:00 a.m. (Ambassador Ballroom)

17/ REALIZING VALUE ENGINEERING POTENTIAL IN MANUFACTURING. John A. Chartz, Executive Vice President, Dalmo Victor Co., Belmont, California.

10:30 a.m. (Ambassador Ballroom)

18/ EVALUATING THE WORTH OF A FUNCTION. Carlos Fallon, Manager, Value Analysis, RCA, Camden, New Jersey.

VALUE ENGINEERING IN THE STATE OF MASSACHUSETTS. (Tentative) Speaker: Dr. Herman V. Lamark, First Deputy Commissioner of Administration, State House, Boston, Mass.

### Awards Luncheon/Tuesday, August 23

11:30 a.m. (Cocoanut Grove)

AWARDS LUNCHEON HONORING LARRY MILES. Speaker: Larry Miles.

## S.A.V.E. / WESCON Registration Form

The registration fee includes all SAVE sessions, a printed symposium record, two SAVE luncheons and one banquet, as well as admission to the WESCON show and all WESCON technical sessions. SAVE EVENTS are Aug. 22-23. WESCON is Aug. 23-26. Registration is \$35 for SAVE members, \$40 for non-members.

Return form to:

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Check for \$ \_\_\_\_\_ is enclosed.

Confirmation of registration will be mailed on receipt of this form.

# WESCON TECHNICAL PROGRAM OPENS AUGUST 23

The grand experiment with WESCON, the Western Electronics Show and Convention, this year is the amalgamation of three other symposia into its crammed schedule.

These symposia: the Society of American Value Engineering annual program, the Seventh International Electronic Circuit Packaging Symposium and an Oceanographic Instrumentation Calibration Symposium both augment the WESCON Show and, as important, prevent the split attendance that would occur if they were held separately.

During the actual WESCON convention, Nobel Prize winner Dr. Glenn T. Seaborg, chairman of the Atomic Energy Commission, will be keynote speaker at the opening luncheon Aug. 23.

More than 110 papers are scheduled for presentation during the technical sessions—but an even more impressive aspect of the show is the exhibit center embracing 1,100 booths that spread from the Sports Arena to Hollywood Park. The technical sessions will be presented separately at the Biltmore Hotel.

The Seventh International Electronic Circuit Packaging Symposium will also be a short distance away. It is scheduled at USC Aug. 22-23. Twenty-three papers are to be delivered in seven sessions.



WESCON EXECUTIVE COMMITTEE working on last minute details of the WESCON show in Los Angeles Aug. 23-26 are, from left, William J. Moreland, show director; Don Larson, gen-

eral manager; Hugh Moore, board chairman; Ralph Lamm, chairman of the executive committee; and John J. Guarrera, convention director.

## TECHNICAL PROGRAM

### TUESDAY, AUGUST 23

#### Circuit Engineering by Digital Computation

9:30-Noon (Biltmore Bowl)

Session Chairman: D. W. Cooper, IBM Systems Development Division, San Jose, California.

1/1 A COMPUTER-ORIENTED METHOD FOR ANALYZING NETWORKS WITH RLC ELEMENTS AND IDEAL TRANSFORMERS. K. Lock, IBM Systems Development Division.

1/2 LISA—A PROGRAM FOR LINEAR SYSTEMS ANALYSIS. K. L. Deckert and E. T. Johnson, IBM Systems Development Division.

1/3 COMPUTER-AIDED DESIGN OF TWO SERVOSYSTEMS. D. B. Gasich and R. H. Friesen, IBM Systems Development Division.

1/4 A COMPUTER-AIDED METHOD FOR CHECKING AND MAKING MONOLITHIC INTEGRATED CIRCUIT MASKS. D. M. Sheppard, A. M. Barone, and M. E. Harris, IBM Components Division, Fishkill, N. Y.

#### Solid-State Devices and Integrated Circuits

9:30-Noon (Biltmore Ballroom)

First of two Tutorial Sessions organized by the IEEE Group on Electron Devices.

Session Chairman: Peter Myers, Bunker-Ramo Corp., Canoga Park, California

2/1 METAL SEMICONDUCTOR SHOTTKY BARRIERS AND DEVICES. M. M. Atalla, Hewlett-Packard, Palo Alto.

2/2 UNPACKAGED DEVICES. J. M. Goldey and J. M. Early, Bell Telephone Laboratories, Murray Hill, New Jersey.

2/3 LARGE SCALE INTEGRATION. Richard L. Petritz, Semiconductor Research Lab, Texas Instruments, Dallas.

2/4 MICROPOWER LINEAR CIRCUITS. J. D. Meindel and P. H. Hudson, U. S. Army Electronics Command, Fort Monmouth, New Jersey.

#### Piezoelectric Ceramic Devices and Applications

9:30-Noon (Biltmore Music Room)

Session Chairman: Othmar M. Stuetzer, Sandia Laboratory, Albuquerque.

3/1 IMPROVED CERAMICS FOR PIEZOELECTRIC DEVICES. G. H. Haertling, Sandia Laboratory.

3/2 SWITCHING PROPERTIES OF POLYCRYSTALLINE FERROELECTRICS. R. H. Plumlee, Sandia Laboratory.

3/3 THE THEORY OF LINEAR MULTIELECTRODED PIEZOELECTRIC PLATES. R. W. Holland, Sandia Laboratory.

3/4 FERROELECTRIC CERAMIC LOGIC AND NDRO MEMORY DEVICES. D. G. Schueler, Sandia Laboratory.

3/5 SMALL-SIGNAL APPLICATIONS OF MONOLITHIC MULTIPOINT PIEZOELECTRIC DEVICES. C. E. Land, Sandia Laboratory.

#### Satellite Communications

9:30-Noon (Biltmore Renaissance Room)

Session Chairman: Frank Druding, Litton Mellonics Systems Development Division, Sunnyvale, California.

4/1 COMMUNICATION SATELLITE SYSTEM OPERATIONS. George D. Dill, Communications Satellite Corp., Washington, D.C.

4/2 MULTIPLE ACCESS—A SURVEY OF THE STATE-OF-THE-ART. R. R. Cagnon, TRW Systems, Redondo Beach, California.

4/3 EVALUATION OF TECHNIQUES FOR SCHEDULING SATELLITE COMMUNICATIONS SYSTEMS. Morton D. Lenske, Litton Mellonics Systems Development Division.

4/4 "MASCOT," A MILITARY AIR TRANSPORTABLE SATELLITE COMMUNICATIONS TERMINAL FOR CRISES MANAGEMENT. J. M. Rosenberg, G. R. Hickcox and C. D. Sordal, Philco Western Development Laboratories, Palo Alto.

4/5 SATELLITES FOR TV DISTRIBUTION. P. S. Visser, Hughes Aircraft, El Segundo.

#### Recent Advances in Non-Digital Applications and Inter-Connection Aspects of Integrated Electronics

9:30-Noon (Biltmore Galeria Room)

Session Chairman: Adi J. Khambata, Univac, St. Paul, Minn.

5/1 LASER-INDUCED RESISTIVITY CHANGES IN FILM RESISTORS. Stanley J. Lins and Richard D. Morrison, Univac, St. Paul, Minn.

5/2 THIN-FILM MEMORY SENSE AMPLIFIER USING LINEAR INTEGRATED CIRCUITS. John W. Staubus, Univac.

5/3 LAMINATE PRINTED CIRCUIT INTERCONNECTION OF INTEGRATED CIRCUITS. Joseph A. Kimlinger, Univac.

5/4 PACKAGING MONOLITHIC INTEGRATED CIRCUITS IN THE UNIVAC 1824 AEROSPACE COMPUTER CENTRAL PROCESSOR. R. A. Beck and E. I. Moore, Univac.

5/5 SOME FUTURE ASPECTS OF MICROELECTRONICS. Vasil Uzunoglu, Arinc Research Corp., Annapolis, Md.

#### Electron Devices

2:00-4:30 p.m. (Biltmore Ballroom)

Second of two Tutorial Sessions organized by the IEEE Group on Electron Devices.

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*Session Chairman:* William R. Luebke, Eimac Division, Varian Associates, San Carlos, Calif.

**6/1 HIGH POWER LINEAR BEAM TUBES.** T. Moreno, Varian Associates, Palo Alto.

**6/2 RECENT ADVANCES IN BEAM-PLASMA AMPLIFIERS.** Paul Chorney, Microwave Associates, Burlington, Mass.

**6/3 TELEVISION CATHODE RAY DISPLAY TUBES** Fred Townsend, Westinghouse Electric, Elmira, New York.

**6/4 SOLID-STATE SWITCHING DEVICES.** Vinod Sundra, Transatron Electronics, Wakefield, Mass.

## The Application of State-Variable Techniques in Communication and Radar

2:00-4:30 p.m. (Biltmore Music Room)

*Session Chairman:* Harry L. Van Trees, Department of Electrical Engineering and Research Laboratory of Electronics, M.I.T.

**7/1 DETECTION AND CONTINUOUS ESTIMATION THEORY.** Harry L. Van Trees, M.I.T.

**7/2 THE USE OF STATE-VARIABLES AND MARKOV PROCESSES TO PROBLEMS OF ANALOG COMMUNICATION.** Donald Snyder, M.I.T.

**7/3 MAXIMUM A POSTERIORI INTERVAL ESTIMATION.** Arthur Bagge, M.I.T.

**7/4 SIGNAL OPTIMIZATION FOR ADDITIVE NOISE CHANNELS WITH FEEDBACK.** Jim K. Omura, Stanford University.

**7/5 A MODERN SYSTEMS APPROACH TO SIGNAL DESIGN.** Fred Schweppe, Michael Athans, M.I.T.

## Recent Advances in High Frequency Solid State Transmitter Systems

2:00-4:30 p.m.

(Biltmore Renaissance Room)

*Session Chairman:* E. E. Spitzer, RCA, Lancaster, Pennsylvania

**8/1 R. F. TRANSISTOR CONSIDERATIONS.** Stanley Matyckas, RCA, Somerville, New Jersey.

**8/2 APPLICATION OF OVERLAY TRANSISTORS TO SOLID STATE MOBILE EQUIPMENT.** Nicholas Richards, RCA Broadcast and Communications Division, Meadowlands, Pennsylvania.

**8/3 MICROWAVE TRANSISTORS.** Hon C. Lee, RCA Industrial Semiconductor Operations Dept., Somerville, New Jersey.

**8/4 HIGH POWER MICROWAVE VARACTORS AND VARACTOR MULTIPLIERS.** Jacques Collard, RCA, Princeton, New Jersey.

**8/5 MICROWAVE SOLID STATE MULTIPLIERS FOR SPACE SYSTEMS.** Wellesley Dodds, RCA Microwave & Power Tube Operations, Harrison, New Jersey.

## Advanced Spaceborne Computer Concepts

2:00-4:30 p.m. (Biltmore Galeria Room)

*Session Chairman:* Warren Semon, Burroughs Corp.

**9/1 SPACEBORNE MULTIPROCESSING ORGANIZATIONS.** Thomas E. Burke, NASA Electronics Research Center.

**9/2 ASSOCIATIVE MEMORIES FOR SPACE APPLICATIONS.** Dale Gunderson, Honeywell Systems and Research Division.

**9/3 LOGIC DESIGN TECHNIQUES FOR ERROR CONTROL.** Jack Goldberg, Stanford Research Institute.

**9/4 A SYSTEMS APPROACH TO THE VOICE INSERTION OF DATA.** Warren Brodey, NASA Electronics Research Center.

## AUGUST 24

### Large Scale Integration

9:30-Noon (Biltmore Bowl)

*Session Chairman:* D. E. Rosenheim, T. J. Watson Research Center.

**10/1 SYSTEMS CONSIDERATIONS FOR L.S.I.** M. G. Smith, T. J. Watson Research Center.

**10/2 DESIGN AUTOMATION FOR L.S.I.** H. Freitag, T. J. Watson Research Center.

**10/3 DISCRETIONARY WIRING APPROACH TO LARGE SCALE INTEGRATION.** J. Kilby and J. Lathrop, Texas Instruments, Inc.

**10/4 A NEW DIMENSION IN MICROELECTRONIC SYSTEMS.** A. C. Lowell, and T. Mitsutomi, Autonics, Anaheim, California.

**10/5 MICROMATRIX APPROACH TO MOS COMPLEX ARRAYS.** Leslie Vadasz, Fairchild Semiconductor Research and Development Laboratory.

### Field Effect Transistors

9:30-Noon (Biltmore Ballroom)

*Session Chairman:* George Rostky, EEE—The Magazine of Circuit Design Engineering, New York.

**11/1 FET VS. BIPOLAR TRANSISTOR CHARACTERISTICS.** Donald L. Wollesen, Motorola Semiconductor Products.

**11/2 THE FET AS AN AMPLIFIER.** James Sherwin, Siliconix.

**11/3 THE FET AS A SWITCH.** Carroll Perkins, Raytheon Semiconductor.

**11/4 CIRCUIT SIMPLIFICATION WITH FETS.** George Luettgenau, TRW Semiconductor.

**11/5 CONSIDERATIONS OF THE FET IN COMPLEX ARRAYS.** Michael Dix, General Microelectronics.

### Millimeter Wave Techniques and Applications

9:30-Noon (Biltmore Music Room)

*Session Chairman:* Donald D. King, Aerospace Corporation, El Segundo, California.

**12/1 SOLID STATE MILLIMETER WAVE POWER GENERATION AND AMPLIFICATION.** Robert Rafuse and Donald Steinbrecher, Research Laboratory for Electronics, M.I.T., Cambridge.

**12/2 SOME APPLICATIONS OF MILLIMETER WAVES IN ATMOSPHERIC RESEARCH.** R. L. Mitchell, Aerospace Corporation, El Segundo.

## Gentleman's Treaty Rules

Overt recruitment of engineering and other personnel at WESCON this month has been banned by a "gentleman's agreement."

Simply stated, the agreement asks participating companies to draw a fine line between the gentle nudge and the hard sell in "raiding" other companies for engineers.

A similar "de facto" agreement is in operation concerning corporate parties, although no rules, restraints or punishment is laid out.

**12/3 MILLIMETER WAVE RADIO ASTRONOMY.** Douglas Thornton, Space Science Lab., University of California, Berkeley.

**12/4 MILLIMETER SPECTROSCOPY AND APPLICATIONS TO HIGH TEMPERATURE AND UNSTABLE MOLECULES.** James J. Gallagher, Martin-Marietta, Orlando, Florida.

**12/5 SOLID STATE MILLIMETER WAVE RECEIVERS.** James Kirwan and Charles Abronson, Space-General Corp., El Monte.

### Theory, Design, and Testing of Error-Correcting Devices

9:30-Noon (Biltmore Renaissance Room)

*Session Chairman:* A. E. Fein, Westinghouse Defense and Space Center, Baltimore, Maryland.

**13/1 FORCED ERASURE DECODING.** R. M. Heller and R. G. Marquart, Westinghouse Electric Corporation.

**13/2 DESIGN AND TEST OF A SIMPLE ERROR-CORRECTING CODING SYSTEM.** Joseph M. Van Horn, Codex Corporation.

**13/3 DESIGN AND PERFORMANCE OF A TIME-SPREAD CODER.** L. E. Hayden and A. E. Fein, Westinghouse Electric Corporation.

**13/4 EVALUATION OF ERROR CORRECTION BLOCK ENCODING FOR HIGH SPEED DATA.** K. Brayer and O. Cardinale, The Mitre Corporation.

### Effective Utilization of Grid-Based Interconnection Systems

9:30-Noon (Biltmore Galeria Room)

*Session Chairman:* S. V. Worth, Elco Corporation.

**14/1 EFFECTIVE UTILIZATION OF GRID-BASED INTERCONNECTING SYSTEM.** S. M. Paulson, Interstate Electronics Corp. Anaheim, Calif.

**14/2 DESIGN PARAMETERS FOR PROGRAMMED MACHINE WIRING.** D. P. Brouwer, Gardner-Denver.

**14/3 DESIGN CRITERIA FOR METAL-PLATE CONNECTORS.** B. Sheingold, Elco Corporation.

**14/4 TOLERANCE SPECIFICATION BY MULTIPLE ALIGNMENT STATISTICS.** L. Nanis, Institute of Direct Energy Conversion, U. of Pennsylvania.

### SPECIAL SESSION "A"

#### Information Management: A Technology Amplifier

2:00-4:30 p.m. (Biltmore Ballroom)

*Session Chairman:* Robert M. Hayes, University of California at Los Angeles.

**A/1 AN OVERVIEW OF THE INFORMATION RETRIEVAL FIELD.** Robert M. Hayes, Institute of Library Research, UCLA.

**A/2 AVAILABLE HARDWARE FOR INFORMATION STORAGE AND RETRIEVAL.** J. C. R. Licklider, T. J. Watson Research Laboratory, IBM.

**A/3 THE CHEMISTS' APPROACH TO THE INFORMATION PROBLEM.** Herbert R. Koller, Research and Development, U.S. Patent Office, Washington, D.C.

**A/4 DEVELOPMENTS IN THE IMPROVEMENT OF SCIENTIFIC AND TECHNICAL INFORMATION EXCHANGE.** Melvin Day, Scientific and Technical Information Division, NASA.

**A/5 A PLAN FOR TECHNICAL SOCIETY INFORMATION RETRIEVAL AND EXCHANGE.** Morris Rubinoff, University of Pennsylvania.

## AUGUST 25

### Engineering Education for Student and Professional (Panel)

10 a.m.-12:30 p.m. (Biltmore Bowl)

*Session Chairman:* Dean Joseph M. Pettit, Stanford University.

*Panel Members:* Dr. Frederick E. Terman, Foundation for Science and Engineering, Southern Methodist University.

Dr. Thomas F. Jones, Jr., President, University of South Carolina.

Dr. Robert E. Samuelson, Motorola, Inc., Military Electronics Division/Western Center.

Dr. R. W. Kulterman, IBM Corporation, Rochester, Minnesota.

Dr. F. K. Willenbrock, Associate Dean of Engineering, Harvard University.

### Electronic Systems for Urban Rapid Transportation

9:30-Noon (Biltmore Ballroom)

*Session Chairman:* Robert C. Wigger, Advance Data Systems Division, Litton Industries, Beverly Hills.

**16/1 ENGINEERING TOMORROW'S TRANSIT TODAY FOR BARTD.** Deane N. Aboudara, San Francisco Bay Area Rapid Transit District.

**16/2 COMPUTER CONTROL OF TRANSIT CARS.** C. William Woods, Westinghouse Air Brake Co., Pittsburgh, Pennsylvania.

**16/3 URBAN RAPID TRANSPORTATION AND AUTOMATIC REVENUE CONTROL.** Raymond Silver, Litton Advance Data Systems.

**16/4 APPLICATION OF ELECTRONICS IN URBAN PUBLIC TRANSPORTATION SYSTEMS.** John C. Beckett, Hewlett-Packard Co.

### Design and Performance Capabilities of Solid-State High-Frequency Linear Amplifiers

9:30-Noon (Biltmore Music Room)

*Session Chairman:* R. S. Engelbrecht, Bell Telephone Laboratories, Murray Hill, New Jersey.

**17/1 COMPARATIVE APPRAISAL OF HIGH-FREQUENCY SOLID-STATE LINEAR AMPLIFIERS.** R. S. Engelbrecht, Bell Telephone Laboratories.



**17/2 ANALYTICAL AND EXPERIMENTAL DESIGN PROCEDURE FOR MICROWAVE TUNNEL-DIODE AMPLIFIERS.** C. S. Kim, General Electric Co.

**17/3 FIELD EFFECT TRANSISTOR AMPLIFIERS.** R. W. Ahrons, Radio Corporation of America.

**17/4 MICROWAVE TRANSISTOR AMPLIFIERS.** P. D. Stark, Bell Telephone Laboratories.

## Plastic Transistors—Their Impact on the Industry

9:30-Noon (Biltmore Renaissance Room)

*Session Chairman:* James E. Harrison, Bendix Semiconductor Div., Holmdel, New Jersey.

**18/1 ECONOMY LINE SEMICONDUCTORS—THEIR FUTURE.** James Bockhaus, General Electric Company, Syracuse, New York.

**18/2 MARKET IMPACT OF PLASTIC SEMICONDUCTORS.** George Berryman, Texas Instruments.

**18/3 THE TECHNICAL ASPECTS OF PRODUCTION.** John McDougall, Fairchild Semiconductor.

**18/4 SILICON PLASTIC POWER TRANSISTOR—ITS INTRODUCTION TO THE MARKET.** Hy Newman, Semiconductor Division, Bendix.

## Parameters to be Considered in Choosing Sophisticated Microwave Devices in the Design of New Microwave Receiver Systems

9:30-Noon (Biltmore Galeria Room)

*Session Chairman:* Bruno Kaiser, Watkins-Johnson Co., Palo Alto.

**19/1 STATE-OF-THE-ART ADVANCES IN ULTRA-LOW-NOISE TWT'S AND THEIR APPLICATIONS.** B. P. Israelsen and C. C. Billat, Watkins-Johnson Company.

**19/2 NEW ADVANCES IN THE DESIGN OF BWO'S: THEIR APPLICATIONS AND RELATIVE MERITS.** Bruno Kaiser and A. T. Isaacs, Watkins-Johnson Company.

**19/3 YIG DEVICES: THEIR TECHNOLOGY, APPLICATION, ADVANTAGES AND DISADVANTAGES IN THE DESIGN OF SOPHISTICATED MICROWAVE RECEIVER SYSTEMS.** L. B. Fletcher and R. W. Peter, Watkins-Johnson Company.

**19/4 APPLICATION OF ULTRA-MINIATURE FERRITE DEVICES FOR ADVANCED RECEIVER SYSTEMS.** V. E. Dunn, R. W. Roberts, Jr., and George E. Tralie, Watkins-Johnson Company.

## SPECIAL SESSION "B"

### On-Line Computing — Capabilities, Constraints, and Challenges

2:00-4:30 p.m. (Biltmore Ballroom)

*Session Chairman:* Richard H. Wilcox, Office of Naval Research, Department of the Navy.

**B/1 ON-LINE EDUCATIONAL TECHNIQUES.** D. Bitzer, University of Illinois Coordinated Science Laboratory.

**B/2 UNCOMMON APPLICATIONS.** L. C. Clapp, Computer Research Corp., Belmont, Mass.

**B/3 COMMAND AND CONTROL APPLICATIONS.** W. D. Wilkinson, Bunker-Ramo Corp., Canoga Park, California.

**B/4 AN ELECTRICAL ENGINEERING APPLICATION.** Speaker to be announced from Project MAC.

## AUGUST 26

### Power and Control Integrated Circuits

9:30-Noon (Biltmore Bowl)

*Session Chairman:* M. J. Hellstrom, Westinghouse Electric Corp., Elkridge, Maryland.

**20/1 A MONOLITHIC VOLTAGE REGULATOR.** J. Jennings, M. Oppenheimer, Westinghouse Molecular Electronics Div., and E. A. Karcher, ITT Semiconductors, West Palm Beach, Fla.

**20/2 A LOGIC—SCR DRIVER INTEGRATED CIRCUIT.** M. Oppenheimer, Westinghouse Molecular Electronics Division.

**20/3 AN INTEGRATED AMPLIFIER-FIRING CIRCUIT.** M. Hellstrom and C. Laughinghouse, Westinghouse Molecular Electronics Division.

**20/4 LOW POWER SOLID STATE INVERTERS FOR SPACE APPLICATIONS.** P. Vergez, V. Glover, Texas Instruments, and B. Willis, NASA Astronautics Lab, Huntsville, Alabama.

**20/5 POWER DEVICES FOR A SOLID STATE INVERTER.** D. Manus, D. Smith, L. Hahn, and R. Windecker, Texas Instruments.

**20/6 MONOLITHIC INTEGRATED CIRCUIT ARRAYS FOR A SOLID STATE INVERTER.** P. S. Newcomb, Texas Instruments.

### High Availability Computer Systems

9:30-Noon (Biltmore Ballroom)

*Session Chairman:* William C. Carter, IBM Corp., Poughkeepsie, N.Y.

**21/1 CRITERION FOR ASSESSING THE RELIABILITY OF TOTAL COMPUTER SYSTEMS.** W. E. Marshall, Control Data Corporation, Minneapolis, Minn.

**21/2 SYSTEM EFFECTIVENESS AS A GENERALIZATION OF SYSTEM AVAILABILITY.** Stephen W. Leibholz, Auerbach Corporation.

**21/3 MONITORING RELIABILITY REQUIREMENTS BY TOTAL SYSTEM SPECIFICATION AND DESIGN.** Reynolds Thomas, Jr., Defense Communications Agency.

**21/4 DESIGN AND USE OF A FAULT SIMULATOR FOR SATURN COMPUTER DESIGN.** F. J. Hardie and R. J. Suhocki, IBM, Federal Systems Division, Bethesda, Maryland.

**21/5 SYSTEM DESIGN FOR HIGH AVAILABILITY.** C. M. Davis, IBM Systems Development, Poughkeepsie, N.Y.

**21/6 MODULAR SYSTEM APPROACH TO HIGH AVAILABILITY.** T. S. Stafford, IBM Systems Development, Poughkeepsie, N.Y.

### High-Frequency Amplifier Design

9:30-Noon (Biltmore Music Room)

*Session Chairman:* John Moll, Department of Electrical Engineering, Stanford University.

*Session Organizer:* Mark B. Leeds, Electronic Design Magazine, New York.

**22/1 SMALL-SIGNAL DESIGN (SYSTEMS HANDLING LESS THAN 1 WATT).** Speaker to be announced from Fairchild Semiconductor, Mountain View, California.

**22/2 LARGE-SIGNAL DESIGN (SYSTEMS HANDLING MORE THAN 1 WATT).** Roy Hejhall, Motorola Semiconductor Products, Phoenix.

**22/3 JUNCTION FET HIGH-FREQUENCY AMPLIFIERS.** J. B. Compton, Siliconix, Sunnyvale, Calif.

**22/4 MOS-FET HIGH-FREQUENCY AMPLIFIERS.** Paul E. Kolk, KMC Semiconductor, Long Valley, New Jersey.

**22/5 DESIGNING FOR LOW-NOISE.** George Johnson, Texas Instruments Semiconductor Components Division, Dallas.

**22/6 DESIGN TRADE-OFFS.** R. Minton, RCA Electronics Components and Devices, Somerville, New Jersey.

### The Impact of Ultra Wideband Sampling and Associated Developments on Electronic Instrumentation

9:30-Noon (Biltmore Renaissance Room)

*Session Chairman:* Bernard M. Oliver, Hewlett-Packard Co., Palo Alto.

**23/1 THE ULTRA WIDEBAND SAMPLING GATE—AN ANALYSIS, CHARACTERIZATION AND APPLICATION DISCUSSION.** Dar Howard, Hewlett-Packard.

**23/2 SAMPLING BASED PHASE LOCKED LOOPS.** Gerald Alonzo, Hewlett-Packard.

**23/3 SAMPLER BASED INSTRUMENTS FOR COMPLEX SIGNAL AND NETWORK ANALYSIS.** Richard W. Anderson, Hewlett-Packard.

**23/4 RANDOM SAMPLING—A STATISTICAL MEASUREMENT APPROACH.** John Boatwright, Hewlett-Packard.

### Array Antennas for Space Applications

9:30-Noon (Biltmore Galeria Room)

*Session Chairman:* Lester C. Van Atta, NASA/Electronics Research Center, Cambridge, Mass.

**24/1 ANTENNA REQUIREMENTS FOR INTERPLANETARY COMMUNICATIONS.** Ralph D. Kodis, NASA/ERC.

**24/2 RECENT ADVANCES IN THE THEORY AND PRACTICE OF ARRAY ANTENNAS.** Bliss L. Diamond, M.I.T., Lincoln Laboratory.

## AIME Exhibits Concern Over Student Decline

According to a spokesman for the American Institute of Mining, Metallurgical, and Petroleum Engineers, the Woman's Auxiliary of the institute is offering scholarships and scholarship loans to students in mining, metallurgical and petroleum engineering to offset a drastic shortage of these classes of engineers.

R. William Taylor, executive secretary of the society, recently pointed out that between 1955 and 1964 college enrollment in mining engineering was almost cut in half, from 572 to 341; in geological engineering, from 611 to 184; and petroleum engineering, from 1887 to 411.

Even metallurgical engineering, an important discipline in the booming space industry, increased only slightly in enrollment.

Taylor, who has set up an intensive recruitment and guidance program in AIME, claims the problem is compounded because the fields are actually expanding at a healthy rate—even though young persons studying for a career in them are dropping off.

"An important obligation of a professional man and a professional society is to foster the development of young engineers," he wrote in a recent article, "We are proud of our profession and the industries we represent, realizing more fully than does the average citizen the importance of a continuing supply of metals and minerals to the progress of the world."

The program instituted by Taylor constitutes an intensive evaluation project of present guidance procedures in college as well as a stronger program for reaching and motivating would-be engineers.

**24/3 AN ADAPTIVE ANTENNA SYSTEM FOR MAXIMIZING SIGNAL-TO-NOISE.** Robert T. Adams, Communications Systems Inc.

**24/4 A NOVEL SPACECRAFT ANTENNA ARRAY.** Willard T. Patton, RCA, Moorestown.

**24/5 AN ELECTRONICALLY SCANNED K-BAND PHASED ARRAY FOR A SPACEBORNE RADIOMETER.** Merlin E. Louapre, Space-General Corp.

## SPECIAL SESSION "C"

### The Characteristics of Electricity Supplied from Electrical Power Systems

2:00-4:30 p.m. (Biltmore Ballroom)

Three papers will be presented by: 1) A representative engineer from a large electrical power system; 2) an engineer who is active in the field of data processing systems and on-line computers; 3) a manufacturer who will discuss corrective measures that can be taken to meet these critical loads.



## President's Message



How many technical society meetings are held each month in the Los Angeles area? Would you believe 200? 100? 50? Even if each of the more than 50 local chapters held only one meeting per month, an average of 2-3 meetings per night would be necessary to fit them all in. And the larger societies have many extra meetings for subsections and special interest groups. Then, Los Angeles is a favorite location for regional, national and even international technical conferences and symposia. It all adds up to *program proliferation!!!*

But is the average engineer or scientist really able to profit from the wealth of technical programs provided for his continuing education and professional development? As a past program chairman and observer of local technical society programs, it is my opinion that many speakers have a much smaller audience than they deserve and some deserve a much smaller audience than they have. Admittedly, my observations are based on a limited sample, but I believe we have an obligation and an opportunity to improve both the overall quality and timing of technical programming in the Los Angeles area. By providing appropriate publicity of top quality technical meetings, leaders of LATSC member societies can better fulfill their obligation to provide educational opportunities for all interested members.

And with the rapidly advancing and expanding frontiers of knowledge, the engineer or scientist who doesn't keep up with the "state-of-the-art"

soon becomes obsolete. If you are a "systems engineer," you can benefit directly from technical programs conducted by several LATSC member societies, provided they don't fall on the same evening! Even if you specialize in a particular phase of engineering or technology, you should be aware of related areas to make your work easier and more productive. And basic principles, approaches or tools effective in other areas of technology may be adapted profitably to problems in yours. Thus, each of us has a "need to know" what is going on in the Los Angeles technical community. And we have a need to see that two meetings we want to attend are *not* scheduled for the same evening.

The LATSC Program Coordination Committee and the ENGINEER/SCIENTIST calendar provide a way to satisfy both of these needs. To quote the LATSC by-laws:

**"It shall be the duty of this committee to encourage the arrangement of (LATSC) member organization programs as to reduce and avoid conflicts in dates and generally promote effective coordination of their activities."**

Each LATSC member society has been solicited for a nominee (normally the society's program chairman) to serve on this committee. Knowledge of what other societies are planning and coordination in joint meetings can help reduce the number and improve the quality of programs.

Urge your Program Chairman to take advantage of the benefits offered by active participation in the LATSC Program Coordination Committee. And make certain your secretary sends in meeting notices and changes in membership regularly. Remember, you, too, have a "need to know."

Alan O. Abel

## INTERNATIONAL DATEBOOK 1966 — 1967

### Oct. 1-10

Japan Plastic Show, Tokyo, Japan

### Oct. 8-16

Chemical Exhibition, Milan, Italy

### Oct. 9-15

Congress of Plastic Arts, Tokyo, Japan

### Oct. 10-14

Exhibition of Electronic Components, Amsterdam, Holland

### Oct. 15-26

Machine Tools Trade Fair, Osaka, Japan

### Oct. 17-22

ILMAC-Technical Chemical Exhibition, Basel, Switzerland

### Oct. 19-26

Plastics Fair, Utrecht, Netherlands

### Oct. 24-27

Instrumentation/Automation Exhibition, New York, USA

### Nov. 1-30

European Symposium on Fresh Water From the Sea, Athens, Greece

### Nov. 19-25

Automation/Instrument Exhibition, Milan, Italy

### Nov. 19-26

European Federation of Corrosion — Conference, Basel, Switzerland

### Dec. 1-31

Academy of Ceramics Congress, Vienna, Austria

### Dec. 4-9

Foundry Congress, New Delhi, India

### Jan. 30-Feb. 2

International Heating and Air Conditioning Exposition, Detroit, USA

### Feb. 15-17

International Solid State Circuits Conference, Philadelphia, USA

### Feb. 17-26

Technical Fair of Heating and Ventilation, Copenhagen, Denmark

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# Value Engineering Saves Metal Finishing Dollars

(The following article is a summary of a chapter from "The Engineers Plating Manual," by Myron Miller. Interlock Publications, Inc. \$14. The book is available from SpecTech Publications.)

Process Value engineering may be defined as "finish engineering with a \$ sign." Process value in most instances can be related directly to cost and, obviously, to profit. The use of an excessively expensive plating material when another will do is the most direct example of value engineering saving money.



Miller

Recently an electronic firm specified electroless nickel and gold plating on an aluminum chassis when an iridite finish met the functional requirement. By changing the plating specification a savings of \$5 per unit was achieved.

In metal finishing the need for value engineering is particularly acute since most engineering curriculum all but omit metal finishing technology, particularly as related to design.

Value engineering, in it's broadest sense, is the organized effort to reduce production cost while maintain-

ing quality.

Ten handy points to use as a guide in cost reduction are:

- 1.) Consider processing in the initial design stage.
- 2.) Review finishing specifications on established designs.
- 3.) Save dollars by making minor design changes.
- 4.) Save dollars by changing manufacturing operation sequence.
- 5.) Use plating tooling to reduce cost and improve the product.
- 6.) Use specialized processes.
- 7.) Use, but don't overuse, trade name processes.
- 8.) Pursue information about processing.
- 9.) Know the capabilities of your vendors.
- 10.) Keep good lines of communication with process vendors.

Each step, seriously considered against your production line, may save pennies or dollars. Cumulatively the difference can spell profit for your firm.

## Japanese To Visit Local Metal Finishing Plants

Twenty members of the Japanese Association of Metal Finishers will tour Los Angeles metal finishing plants this month. Led by Professor Minoru Nakamura of the Kanto Gakuin University, Yokohama, they will arrive in Los Angeles Aug. 3.

The group is to attend a dinner meeting and cocktail party given by the Metal Finishers Association of Southern California at the Biltmore

Hotel before taking the arranged tours.

Included in the proposed itinerary are trips through the Modern Plating Co., Aug. 3; Gene's Plating Works, Aug. 4; and Travis Plating Co., Inc., Aug. 5. A tour of Los Angeles is scheduled Aug. 6, followed by trips through major American metal finishing plants throughout the United States.

## Two Metal Science Forums To Highlight ASM Congress

In October the Sixth Annual National Metal Congress and Exposition in Chicago, sponsored by the American Society for Metals, will be highlighted by two metal science forums.

Developed as a method of presenting a speedier and more efficient exchange of information in critical areas of research and development, a considerable amount of latitude is allowed the forum participants.

Full day sessions, the forums will open with a keynote paper with the morning devoted to discussion of the paper. Afternoon sessions concentrate on abstracts on the same general subject. Since no written papers are required in advance speakers will be able to present work undertaken almost to the time of the meeting.

The two topics are "New Insights Into Strengthening" and "Stress-Corrosion." The forums are to be open to all registrants who take part in the conference Oct. 31 to Nov. 3 at McCormick Place in Chicago.

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## NAMF Elects Koeckritz

E. Paul Koeckritz, Jr., of the Los Angeles Parkerizing Co., Inc., was unanimously re-elected to the office of secretary-treasurer at the June meeting of the National Association of Metal Finishers in Miami Beach, Florida.

During the meeting which featured the election of national officers the NAMF first vice president, Richard Zacharias, was elected president.

Representing the Metal Finishing Association of Southern California at the convention were E. B. Wiggins, of Aero Manufacturing and Plating Co., association president; Willard Bell, of Metal Surfaces; Tony Stabile, of Associated Plating; Jerry Burton, of Burton Silverplating Co.; Harold Coombs, Jr., Crown City Plating, association delegate; Robert Hixson, Jr., of Hixson Metal Finishing; Fred Wheeler and Dick De La Cruz, of Universal Finishing; and Myron Miller, of SpecTech Publications, executive secretary of the association.

The Metal Finishers Association of Southern California took first honors in the 1966 national association membership drive.

According to recently released figures, the 104 member local association is the largest local metal finishers group in the country.



JACK WOOLFAN, chairman of the Pylon Division of the American Society of Civil Engineers, introduces guest speaker J. Barry Cooke, consulting engineer, at a recent meeting.

## AIME Metals Symposium Set On 'Coupling Problems'

"Research-Production Coupling Problems in the Metal Industry" will be the subject of a symposium sponsored by the American Institute of Mining, Metallurgical and Petroleum Engineers in Los Angeles Oct. 5-7.

In cooperation with the Materials Advisory Board of the National Science Foundation the AIME is producing the symposium with the intent to bring research information to production engineers, hence the title.

According to program chairman, Dr. George Martin, North American Aviation, the symposium is scheduled in four sessions: Education, Federal

Agencies, Industry, and Case Histories. The divisions are intended to unite presentations toward specific areas of the problems being covered.

A fifth session, the introduction to the symposia, will be led by M. Tanenbaum, director of research, Western Electric, Princeton, N. J.

Symposium chairman is Augustus Kinzel, president of the Salk Institute, San Diego; program chairman, Dr. Martin; treasurer, R. H. Willens, CalTech; and in charge of accommodations J. Goen, of North American.

Further information is available from Dr. Martin, NAA, Los Angeles Division, D/283-B261, International Airport, Los Angeles, Calif.

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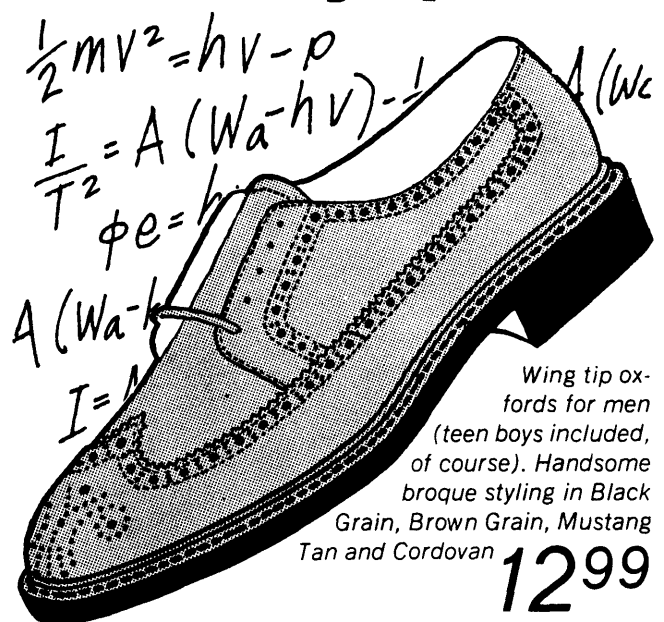
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## The Pipeline

by Jud Morris



Imagine a satellite in an equatorial orbit 100 miles above the earth's surface. The total distance it must travel in space to complete a single orbit would be about 314 miles greater than the circumference of the earth at the equator. If, then, our satellite were to travel at a speed approximately  $314/24$  miles per hour faster than the peripheral speed of the earth's surface at the equator, it would simply "hover" above some point on the surface of the earth. (There is such a satellite: the Synchronized Communications Satellite, SYNCOM, which, in essence, "hovers" above a point in the Pacific Ocean!)

Now, Dear Reader, we ask you to sit back in your easy chair, take a sip of your highball, and CONTEMPLATE this situation.

Here is good old Mother Earth spinning merrily on her axis such that the peripheral speed at the equator is something on the order of 1000 miles per hour. One hundred miles above some point, say, in the Belgian Congo we find our hypothetical satellite traveling at a speed just exactly in the same position relative to aforesaid point. Close your eyes. Imagine yourself a Spaceman of the future ensconced on some distant star — and equipped with a powerful telescope. Gazing back at the earth, you see a tiny "moon" which, to all intents and purposes, simply hovers motionless above the surface of the earth. Got the picture? Good! Now I would like to ask you a question which just might turn out to be not quite so simple as it sounds: *Does the satellite we've been talking about "circle" the earth?*

Think. Mull the whole thing over carefully. Then give us the benefit of your wisdom. We promise to summarize your answer in a future column.



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## Calendar

- AUG. 3 AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, SAN FERNANDO VALLEY CHAPTER 99**  
Place: Hody's Restaurant, 6006 Lankershim Blvd., North Hollywood  
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.  
Topic: "Computers and Their Use for the Small Shop." by Neil Sullivan, director of training, Tymshare, Inc., Los Altos.
- AUG. 6 CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS, SAN FERNANDO VALLEY CHAPTER**  
Place: Home of R. J. Worcester, 21618 Chatsworth St., Chatsworth  
Time: Dinner 7 p.m.  
Topic: The 1966 Annual Bar-B-Que. Attendees to the dinner are to bring barbeque meat, plate and utensils, beer mug and swimming suits. Profits from the annual event are added to the society's scholarship fund.  
Reservations: Must be made by Aug. 1. Cost is \$2.25 per person. Reservations may be made by contacting Mrs. Louise Nakae — (213) 347-8600.
- AUG. 10 ASSOCIATE MEMBER FORUM, AMERICAN SOCIETY OF CIVIL ENGINEERS, LOS ANGELES SECTION**  
Place: Engineer's Club, Biltmore Hotel, 515 S. Olive St., Los Angeles  
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.  
Topic: "Peace Corps Operations in Thailand," by John C. McCarthy, former director of the Peace Corps in Thailand.  
Reservations: Tom Cooper — (213) 321-8181.
- AUG. 10 CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS, DOWNEY-WHITTIER CHAPTER**  
Place: Shangri-La Restaurant, 9604 East Whittier Blvd., Pico Rivera  
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.  
Topic: "Engineering in Industry," by William Bonser and Ray T. Sakamoto. Bonser represents the electrical construction industry and Sakamoto the aero-space industry.  
Reservations: Gerald Weisberg — 861-6088.
- AUG. 16 AMERICAN INSTITUTE OF CHEMICAL ENGINEERS**  
Place: Hyatt House Hotel, Washington Blvd. and the Santa Ana Freeway, Los Angeles  
Time: Social 5:30 p.m. — Dinner 6:30 p.m. — Program 7:30 p.m.  
Topic: "Sulphur Recovery — Emergence and Economics," by A. E. Chute, director of process design, the Ralph M. Parsons Co.  
Reservations: Space is limited and reservations (\$4.50 per person) must be made by Aug. 15 by calling 282-7438.
- AUG. 20 CALIFORNIA SOCIETY OF PROFESSIONAL ENGINEERS, LOS ANGELES CHAPTER**  
Place: Home of R. W. Hutchinson, 2400 Allanjay Place, Glendale  
Time: Social 5 p.m.  
Topic: Organizational and social meeting for directors and officers, committee chairmen and their wives. No speaker.  
Reservations: R. W. Hutchinson — 246-7548.
- AUG. 22 SOCIETY OF AMERICAN VALUE ENGINEERS, LOS ANGELES CHAPTER**  
Place: Ambassador Hotel  
Time: Aug. 22-23.  
Topic: Two-day symposia held in conjunction with WESCON show.
- AUG. 24 AMERICAN SOCIETY OF CIVIL ENGINEERS, RIVERSIDE-SAN BERNARDINO COUNTIES**  
Place: The Dunes, 3667 Plaza Mall, Riverside  
Time: Social 6:30 p.m. — Dinner 7 p.m. — Program 8 p.m.  
Topic: "Bidwell Bar Bridge," by Bill Chezney, a civil engineer with De Leuw Cather Co. He was resident engineer on the construction of the bridge and will show color slides to illustrate his talk.  
Reservations: Harry Krueper — (714) 884-2159.

## Local ASCE Initiates New Group On Urban Planning

The Los Angeles Section of the American Society of Civil Engineers recently initiated the Urban Planning and Development Group to help round out the section's service activities.

An interim committee has been elected while the group firms its internal organization. Taking office on the committee are Alwyn F. Luse, Jr., chairman, of the City Bureau of Engineering; W. F. Bangham, vice chairman, of the Subdivision Engi-

neering Co., Pasadena; John W. Shaver, secretary-treasurer, of the State Division of Highways; Justus C. Gillman, program chairman, of Janss Corporation, Thousand Oaks; John Kay, assistant program chairman, of Bechtel Corp., Calabasas; and Samuel Salkin, consultant; A. Stanley Burney, of Bechtel Corp., and F. Quiros, of McIntire and Quiros, have been named to the constitution and by-laws committee.

The group parallels a national division of ASCE.

## American Nuclear Society Elects Siegel President

High point of the 12th Annual Meeting of the American Nuclear Society in Denver, Colo., recently was the election of Dr. Sidney Siegel as president of the national society.



Dr. Siegel

A charter member and Fellow of the society, past vice president and first chairman of the Southern California Section, Dr. Siegel is vice president and technical director of Atomics International. He succeeds Dr. Norman Hilberry as society president.

Also elected to national office was Ralph G. Chalker. He was named to the ANS board of directors. Chalker is with AI.

During the meeting in which papers were presented on subjects ranging from the locally developed SNAP 10 program to the Heavy Water Organic Cooled Reactor program, Dr. Siegel predicted that scientific research into the "breeder reactor" should "see fruition by no later than 1975."

At that time, he said, brought into widespread commercial use for the production of nuclear fuel, the reactor would make available low cost nuclear power and "ensure the adequacy of our nuclear fuel sources for several centuries."

Joel W. Levy, manager of the Canoga Park office of the Atomic Energy Commission, was recently named chairman of the Los Angeles Section of the ANS. He succeeds William W. Henoch, an Atomics International project engineer for nuclear technology, in the post.

Henoch became a member of the board.

Other new officers of the society are Dr. Kenneth Newman, of Turco Products, vice chairman; Dr. Glenn E. Brand, AI, secretary; and Patrick J. Mallon, also of AI, treasurer.

## Art Oriented Engineers Exhibit At Nuclear Show

Engineers and scientists who are artists have been invited to exhibit their art work at the NucleART show in November.

Scheduled as part of the activities of the Atom Fair '66, the 12th annual international trade show of the nuclear industry, the paintings will be exhibited for the edification of the delegates to the Atomic Industrial Forum as well as the winter meeting of the American Nuclear Society.

## Salon-Type Library Advised

In a study for the U.S. Office of Education dealing with information transfer in educational research, Informatics, Inc., Van Nuys, suggests that "information centers should more closely resemble salons than libraries," according to project head Jules Mersel.

The nine-month study, which concentrated on budgetary considerations, quality control and informal transfer of non-published material, suggested

that transfer of information failed under systems of document retrieval. Such a system may have a time lag of one to two years.

## Computer Study Available

American Federation of Information Processing Societies (AFIPS), 211 E. 43rd St., New York, N.Y. 10017, has a new 103 page report available about the information processing field with growth projections.

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**PRINCIPLES OF ELECTROMECHANICAL ENERGY CONVERSION** by Meisel. Provides a link between circuit and field theory. Given a physical electro-mechanical device or system, this book shows how to formulate a lumped element model. It explains how to set up equilibrium equations for such a model and how to determine the system's response to a variety of excitations. Particular emphasis is placed on incremental electromechanical transducers and on rotating electrical machinery. McGraw-Hill **\$12.75**

**HEAT PUMPS AND ELECTRIC HEATING** by Ambrose. All of the essential procedures are presented in chronological order to enable the heating and air conditioning engineers, contractors, architects and builders to design and install heat pump systems. A wide selection of operating cycles are illustrated and described for all types and designs of systems. Included also are an equipment selection procedure for obtaining the most economical operation, a method for determining the annual operating costs, and a comparative evaluation of electric heating and cooling systems and comparative fuel systems. Wiley **\$10.75**

**SIGNAL FLOW ANALYSIS** by Abraham & Coverly. Signal flow graphs have proven very useful for circuit analysis and this book shows how to use them to speed up solution to many types of problems. Pergamon **\$3.75**

**INTRODUCTION TO DYNAMIC ANALYSIS AND AUTOMATIC CONTROL** by Davies. With the attempt to fill the gap between many advanced books on automatic control and servomechanisms and those on elementary mechanics and mathematics, this work develops simultaneously and logically both the physical aspects of systems and the mathematical methods. The aim is to develop both the physical understanding and the practical analytical techniques to provide a basis for creative design. Wiley **\$8.50**

**ELECTRONICS FOR EXPERIMENTERS IN CHEMISTRY AND BIOLOGY** by Phillips. The aim of this book is to teach the experimenter in the physical and biological sciences how to design the most important types of switching, amplifying and regulating circuits, from first principles, with either tubes or semiconductor devices. Circuits grow in complexity, step by step, as the purpose of each component and the reason for choosing a particular value of the component, is explained. Wiley **Cloth \$5.95 Paper \$3.95**

## EAI President Resigns

Roy Frisen, newly elected president of the Engineers and Architects Institute, Los Angeles Section, resigned his post shortly after the institute elections due to business commitments. He has moved to Louisiana.

In his place, Robert J. Palen, supervising estimator with the state division of architecture, has been named president.

## AIAA/JACC Conferences Set In Seattle Aug. 15-19

The American Institute of Aeronautics and Astronautics' Guidance and Control Conference in Seattle, Wash. Aug. 15-17 has been dovetailed to match up with the Joint Automatic Control Conference Aug. 17-19.

Both of the conferences are scheduled at the University of Washington. AIAA, along with the Instrument Society of America, American Society of Mechanical Engineers, American Institute of Chemical Engineers and the Institute of Electrical and Electronic Engineers, will sponsor the JACC show.

Areas being covered by the technical program in the guidance conference include strapdown guidance; attitude control; gravity gradient stabilization; guidance equation and optimization; test pad stability; spinning and flexible vehicles; navigation, filtering and estimation; guidance sensors, and aircraft re-entry vehicle systems.

More than twenty California engineers will author papers. They are:

J. M. Mendel, Douglas Aircraft Co.; R. H. Katzive, Varian Assoc.; D. Leonides Isaacs, UCLA; Jack T. Irvin, Fairchild Semiconductors; John Peschon, Stanford; Robert E. Larson, Stanford; L. Schwartz, Hughes Aircraft Co.; George Meyer, NASA; David D. Sworder, USC; K. H. Bhavnani and Kan Chen, Stanford; B. W.

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Registration for the guidance conference is \$10 for members, \$25 for non-members. For the JACC program it is \$20 for members, \$24 for non-members. Contact Joe Ryan, AIAA, 7660 Beverly Blvd., Los Angeles, for information.

## Raw Land Seminar Planned

A raw land seminar being held in Los Angeles Aug. 17 at the Century Plaza Hotel, Century City, will feature a group of investment counselors offering professional advice in real estate investment.

Keynote speaker of the seminar, organized by Hal Shapiro of Finance Research Co., will be Stanley Weiss, president of Intercontinental Properties.

Reservations for the seminar, which runs from 9 a.m. to 5 p.m., may be made by contacting Finance Research Co., Box 54906, Los Angeles 54, or by calling Intercontinental Properties, (213) 878-3344. A \$30 attendance fee includes lunch and a "raw land kit."

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