

ORLANDO SECTION NOTES

VOLUME XIII, NUMBER 1

SEPTEMBER 1978



WILLIAM CRAM

MAN OF THE YEAR

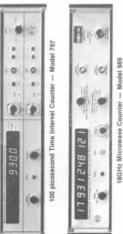
(see page 4)

PUBLISHED BY ORLANDO SECTION
INSTITUTE OF
ELECTRICAL AND ELECTRONICS ENGINEERS

Eldorado Invented the first all Electronic Microwave Frequency Counter

1 Nanosecond Time Interval Counter Eldorado Invented the first Single Shot

00 Picosecond Time Interval Counter Eldorado Invented the first Single Shot



Also: Time Delay Generators, Multi-Channel Systems, Custom Instruments

2495 ESTAND WAY * PLEASANT HILL, CA 94523 * (415) 682-2100 COMPANY INSTRUMENTS

Communications Society planning to have a meeting in the third week of September. Details of the meeting were not available at publicatime. For more information contact Howard Griffin at 351-9960 (8:00 to 4:30 PM).

CONFERENCES

COMPCON, Sept 5-8 in Washington, DC.

JOINT POWER GENERATION TECHNICAL CONFERENCE, Sept. 10-13 in Dallas, Texas.

AUTOTESTCON. Sept 12-14 in San Diego, California.

EASCON, Sept 24-27 in Arlington, VA

CONVERGENCE 78, Sept 25-27 in Dearborn, Michigan.

INDUSTRIAL APPLICATIONS SOCIETY, Oct 1-5 in Toronto, Ontario.

ORLANDO REP. 645-3444

CHAIRMAN'S CORNER

The Section starts the new year of meetings and other activities at a membership level of approximately 654. IEEE as a whole has increased its membership to 209,561 as of June 30, 1978. This is a 12.6% increase over a year ago. We plan to make great strides in our membership drive this year under the direction of Bill Cram our MAN OF THE YEAR 1978. You should be seeing our new membership displays at all Section and



Society functions since each Group Chapter Chairman will have a membership display kit of his own. There are advantages in joining the IEEE during the period between September 1 and December 31, 1978, because the 12 month dues payment required with the application is applied through December 31, 1979. Thus new members enjoy up to three months of additional member services at no additional charge.

I want to take this opportunity to congratulate Bill Cram - MAN OF THE YEAR 1978 and thank him for the fine job that he is doing for the Section.

Thanks are due our publications chairman LEO A. MALLETTE who has been responsible for getting the news to you every month in this SECTION NOTES publication. Leo has been the prime mover in getting the news to you but he will be moving on to bigger and better things next month, and we will be losing a good man and an excellent worker -- Thanks for your efforts Leo.

The Section Executive Committee now meets the first Tuesday of the month at John Young Museum in the Alpha room. The meeting starts at 5:30 P.M. and is open to all members of the Section.

We are in need of interested IEEE Section members to serve on several committees as chairmen (see executive committee list inside back cover for openings) If you would like to be a leader in your Professional Organization please let me know by attending the Executive Committee meetings or by calling me on the phone.

We have an opening for a bright, energetic, resourceful member who would like to learn the publications business and have his works well read. If you are such a person and would like to become involved in publishing the SECTION NOTES call me 352-3810 or call Leo at 275-2548 and have him brief you on the benefits to be gained.

Russ Theisen Section Chairman

The Power Engineering and Industrial Applications Society is planning to have a meeting on Tuesday September 13. Details were not available at publication time, and details can be obtained from Jeff Dick at 352-2682 (8 to 4:30 PM).

WILLIAM C. CRAM ORLANDO SECTION'S MAN OF THE YEAR

Mr. William Cram was nominated as man of the year by the Power Engineering and Industrial Applications Society/Orlando Chapter. Bill has served as secretary, vice-chairman, and chairman (twice) of the above society, was serving as group chapter representative, when awarded the plaque, and is now the membership chairman of the Orlando Section.

Bill has been professionally active in applications and sales engineering since 1946, after leaving military service as a fighter pilot and engineering and operations officer. He has worked for the Okanite Co., G.E., and Orlando Armature Works. Bill and his wife Marjorie (Sis) live in Winter Park, where he occupies his free time with his church's usher association, a half-dozen hobbies, and a flower garden. In addition to IEEE, Bill is a member of the VFW, the American Legion, The Retired Officers Association, Chi Phi fraternity, and a past Commissioner and Institutional Representative of the Boy Scouts of America.

Congratulations to an outstanding contributor to IEEE, and many thanks from the entire Orlando Section.

HYBRID COMPUTATIONAL & IMAGE DIAGNOSTIC LABS TOUR:

MARTIN MARIETTA AEROSPACE

The Computer Society is sponsoring a tour on

Wednesday, September 13, 1978

at the

Martin Marietta Aerospace, Orlando Facility South end of Kirkman Rd. (435)

Time: 7:00 P.M.

A tour of the hybrid computational science laboratory and the image diagnostic laboratory is planned. On display in the Hybrid laboratory will be both digital and analog computers used for mathematical and hardware simulation of space and tactical weapons system. The image digital lab tour will show multi-color displays from digital processing of infra-red, radar, T.V. and visual imagery characteristic of sensors and seekers employed in product lines.

FTU - SOUTH ORLANDO RESIDENT CENTER (SORC)

DIRECTOR: Dr. Richard C. Harden TELEPHONE: (305) 855-0881

7300 Lake Ellenor Drive Orlando Central Park

The 1978-79 SORC Academic Schedule is presented to aid you in planning your schedule for the coming year. It should be noted that enough courses are offered below so that FTU Students residing or working in southwest Orlando can take up to a full load (15 quarter hours) of FRESHMAN and/or SOPHOMORE REQUIRED courses at SORC at night. Most of the graduate level engineering courses are offered via TV tape. Please contact SORC for further details.

FALL 1978 SCHEDULE

			QTR					
	PFX	NO	HRS	COURSE TITLE	Ph	1 7	TIME /	DAY
				COLLEGE OF BUSINESS ADMINISTRATION				
	GEB	3004	3	Management	6	-	8:50	Wed
				COLLEGE OF EDUCATION				
*	EDF	4003	3	Overview of Education	6		8:50	Tue
		4066	4	Philosophy & Principles of Technical Education			9:50	Mon
		4165	4	Curriculum Planning for Vocational Education			8:50	Mon
		4367	-	Evaluation of Occupational Instruction			8:50	Mon
		4380		Methods of Teaching Technical/Vocational Subjects			9:50	Mon
		4565		Analysis of Learning as Applied to Vocational/Educ.			8:50	Mon
		4932	4	ST: OSHA			8:50	Tue
		5068	4	Contemporary Programs in Vocational Education			8:50	Mon
		5937		ST: New Games in Physical Education			8:50	Tue
				COLLEGE OF ENGINEERING				
*	EGN	4832	3	Computers, Cybernetics and Society	6		8:50	Tue
		1000		AMPUS CREDIT COURSES	0		0130	rue
	PRICE	1103	3	COLLEGE OF HUMANITIES & FINE ARTS	,		0.00	
			4	Composition I			9:50	Wed
		2002 3670	3	Modern European Civilization			8:50	Tue
	MUS	3670	3	Music in Society	0	-	8:50	Thur
				COLLEGE OF NATURAL SCIENCES				
T	200	1020	3	Biology of Man (COLOR TV TAPE)	6	77	8:50	Mon
				COLLEGE OF SOCIAL SCIENCES				
	SOC	3130	4	Juvenile Delinquency	6	_	9:50	Wed
	SOC	3705	4	Contemporary Women and Society			9:50	Mon
	SOP	3742	4	Psychology of Women			9:50	Thur
		1014	3	Fundamentals of Oral Communication				Thur
				COLLEGE OF ENGINEERING				
T	PEG	4202	3	Environmental Engineering-Chemical Foundations I			. EO W.	n/Wed
		4404	4	Environmental Engineering-Chemical Foundations i			:50 Mc	
		5625		Water Resources Engineering				
		4504		Urban Planning				e/Thur
		5102		Intermediate Mechanics of Materials			:50 Mc	7-8:50R
		5365		Introduction to Digital Systems				5-6:50W
		5441		Coherent Optics Applications				8-9:50W
- 1		5173		Signal and System Analysis				5-6:50R
10		5937		Digital Signal Processing				7-7:50W
		4114		Engineering Mathematical Analysis				5-6:50R
		5156		Probability for Engineers				8-8:50R
		6357		Engineering Economic Analysis				7-7:50R
		6416		Linear Programming				5-6:50R
		5937		ST: Sim Fluid Mechanis				5-5:50W
		6154		Conduction Heat Transfer				8-8:50W
		6104		Classical Thermodynamics				6-7:50W
-	THE PARTY	2104		ture on TV Tape			- June	W. L. V. TOW

TV COURSE TIMES CAN BE ADJUSTED IN INDIVIDUAL CASES FOR WORK OR SCHEDULE CONFLICTS

The Winter and Spring Quarters are similarly planned with the following course offerings:

EDUC W79	EDUC	SP79	BUSINESS	ENGINEERING	HUMANITIES	NATURAL SCI	SOCIAL SCI
EVT 3063 EVT 3365 EVT 3366 EVT 3367 EVT 3815 EVT 4165	EVT 3063 EVT 3365 EVT 3366 EVT 3367		FIN 3403 MAN 3705C	EGN 4824	HUM 2200 THE 3251	MGF 1124 MRE 4923 PSC 1512	ANT 3401 CLP 3143 COM 1000 FIL 3400 PSY 2013
EVT 4380 EVT 4815 EVT 6264	EVY 4165		BUI 1111	OCE 1012	AHM 3421 ENC 1135 REL 2302	STA 3023 Z00 1020	POS 2041 SOC 2000 SOC 3150

REGISTRATION INFORMATION IS AVAILABLE BY CALLING THE SOUTH OPLANDO RESIDENT CENTER 855-0881

FALL QUARTER CLASSES BEGIN SEPTEMBER 25, 1978



THE LITTLE DMM WITH BIG OWNER BENEFITS

Measures

DC, AC Voltage DC, AC Current

Resistance

Conductance

Features

True Portability

3-way Overload Protection

Easy-to-replace Batteries

LCD Indicators

8020A \$169 Designed for the widest possible range of applications, the 8020A offers every one of the important functions and features in demand today by DMM users, and more. Measurement performance is fully specified and clearly stated for every parameter, and conservative Fluke design means you get instrument specifications you can depend on. Low cost of ownership, worldwide Fluke service and a complete range of measurement accessories make the 8020A ideal for use by servicemen, engineers, technicians and hobbyists.

BCS ASSOCIATES

940 N. FERN CREEK AVE. ORLANDO, FL 32803 305-896-4881

1978/79 IEEE ORLANDO SECTION EXECUTIVE COMMITTEE EXECUTIVE BOARD

Russell E. Theisen

352-3810

275-2548

352-4084

855-0881

275-2786

646-8230

859-2900

1-323-9250

671-4139

671-9720

365-5818

273-8588

855-5775

275-4603

855-0934

859-2497

Chairman

Program, Arrangements

Publications

Advertising

Student Activities

Member-at-Large

Member-at-Large

Member-at-Large

Student Chapter (FTU)

Publicity

Vice Chairman	Dr. Ernest E. Erickson	275-2414	671-5026
Secretary	George F. McClure	352-3782	647-5092
Treasurer	Dr. Ben W. Patz	275-2816	855-3685
Society Chapter Rep.	John D. Gilbert	849-2151	859-5492
	COMMITTEE CHAIRMEN	/	
Jr. Past Chairman	William H. Rhoden	645-3444	671-3469
Sr. Past Chairman	Dr. Ed R. McCarter	275-2786	647-0134
Awards	Dr. Bruce E. Mathews	275-2786	645-0549
Barbeque	Dick Bergen	425-6311	862-0347
Conferences	George F. McClure	352-3782	647-5092
Education	King Osborne	275-2268	277-5092
Engineers' Week	ining obsorrio	270 2200	2//-5052
Region 4 Liaison	John Tracy	352-4448	859-1214
IEEE-FES Liaison	Ed Griffin	352-2132	671-2680
Membership	Bill Cram	0011101	647-4123
MTT-79	Joe Pullara	352-4516	339-1327
PAC	Dr. Dave flinchbaugh	00L 4010	859-4855
	or baro illiforibaugii		000-4000

SOCIETY CHAPTER CHAIRMEN

Leo A. Mallette

Mannie Connell

Homer Wilson

Jim Gav

Bill Kownacki Ext 246

Dr. Richard C. Harden

Robert B. Stafford

Eugene V. Dashiell

AES			
COMM	Howard Griffin	351-9960	647-2720
COMP	Don E. Mendorf Ext 137	339-1600	831-2185
PE&IA	Jim Lynes	1-824-4674	1-847-9453
VT	Mel Kelch	843-8484	859-1533

The ORLANDO SECTION NOTES are published monthly except July and August by the Orlando Section of IEEE. The NOTES are subsidized by advertising and inquiries regarding rates should be addressed to: William A. Kownacki, NCR Corp., E&M Orlando, 546 Lake Emma Rd., Lake Mary, FL 32746. News items should be forwarded to the Publications Chairman at the phone number above. This Executive Committee meets the first Tuesday of each month in the Alpha Room of the John Young Museum at 5:30 PM and is open to all IEEE members.

ORLANDO SECTION I.E.E.E. ORLANDO, FLORIDA

U.S. POSTAGE PAID 2.1 Permit No. 3492 Orlando, Florida Non-Profit Organization



FOR FURTHER INFORMATION CONTACT



HEWLETT · PACKARD DE SALES AND SERVICE

P.O. Box 13910 Orlando, Florida 32809 Phone 859-2900

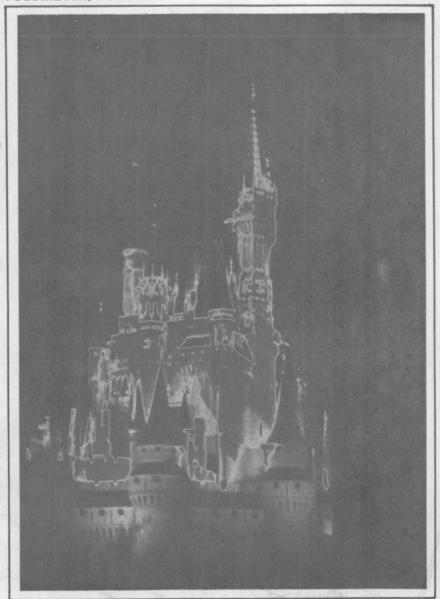
We have just received a supply of HP DC Power Supply Catalogs. To obtain a copy simply call 859-2900, ask for Nancy and a copy will be sent to you.



ORLANDO SECTION NOTES

VOLUME XIII, NUMBER 2

OCTOBER 1978



Eldorado Invented the first all Electronic Microwave Frequency Counter

1 Nanosecond Time Interval Counter Eldorado Invented the first Single Shot

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2495 ESTAND WAY * PLEASANT HILL, CA 94523 * (415) 682-2100 COMPANY INSTRUMENTS

MTT SOCIETY RE-GROUPING

After one year of (near) inactivity, the Microwave Theory and Techniques Society held a meeting to elect new officers for the 1978-79 term. The nominees were:

Chairman:

Dr. Deen D. Khandelwal (352-2339, Martin Marietta)

Vice-Chairman:

Mr. Joe Steever Martin Marietta

Secretary-Treasurer:

Mr. Steve Grav Martin Marietta

As a member of MTT and the Orlando Section, and assisting the steering committee for the annual MTT Symposium, I am happy to see this group gearing up for a productive year of meetings, and tours. The 1979 International Symposium on Microwave Theory and Techniques is to be held here in Orlando next April (see page 10 of this issue) and help is still needed by the local arrangements and digest committees. Contact Joe Pullara for details on what you can do to help the Symposium, or contact Dr. Khandelwal for details on what you can do to help the budding (nearly) new chapter of MTT in the Orlando Section.



8GHz Microwave Counter - Model 989

Also: Time Delay Generators, Multi-Channel Systems, Custom Instruments

ORLANDO REP. 645-3444

CHAIRMANS CORNER

By now you should have returned your IEEE election ballot. Have You? Every voting member should help determine:

- 1. Who will be your Chief Executive.
- 2. Who will be your Executive Vice-President.
- How will the Executive Committee be selected.

The ballot must be post marked prior to November 1, 1978---Don't let the wrong candidate get elected because you forgot to vote.



The section membership is 643 as of July 31, 1978. This is a gain of (42 new members) or 6.99% over a year ago but, we still have 52 of our section members or 8.79% who are in arrears on payment of dues. If you haven't paid your dues as yet please send your check today. We don't want to lose you.

October 27, 1978 is the date set for our annual Bar-B-Que at the Bear Lake Recreation center. Be sure to mark it on your social calendar.

The strength of the IEEE lies in the volunteers who channel their talents and time to further the technical and professional interests of the institute. At this time we are looking for a few good people to help lead our section. If you want to improve the service to our members or if you just want to know what we do call me at 352-3810 during the day or at 671-4139 in the evenings and I will discuss our operation with you. Better still, attend an executive session which is held the first Tuesday of the month at 5:30 p.m. to 7:30 p.m. at the John Young Museum. We would be glad to have you stop by and join us.

Note: Last month I reported an erroneous IEEE membership number and Bob Asdal our Field Services Director picked it up. The June 30, 1978 membership was 176,777 which is only 3.73% ahead of a year ago and not the 12.6% I wrongly reported. Thanks for keeping us honest Bob.

Our August 19, 1978 workshop jointly sponsored by the Florida Council was a success. We had representatives from almost every section in the state. We were addressed by Regional and National Officers of IEEE who outlined the Services available to the IEEE membership. All new and some seasoned Section Officers were enlightened by the fine presentations made by Field Services representative Ann O'Connors and Regional representative Joel Snyder.

Russ Theisen Section Chairman

COVER: This photograph was taken and processed by Mike Padgett. Cinderellas' Castle sets the mood for Halloween, and for the Power Engineering and Industrial Applications Society meeting, see page 5. The Executive Committee of the Orlando Section of IEEE would like to thank Mike Padgett for (making) this outstanding photograph available for publication.

ITT FIBER OPTICS IN THE TELECOMMUNICATIONS INDUSTRY

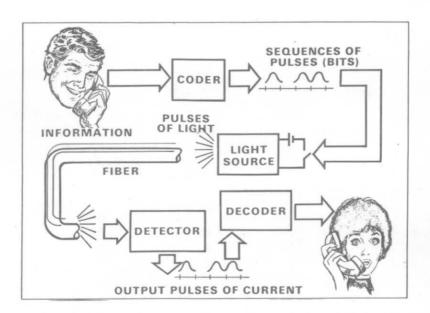
The Communications Society is sponsoring a meeting on Thursday October 26, 1978 at the

Winter Park Telephone Company 850 East Altamonte Drive (436) One Mile East of the Altamonte Mall on the South side of the road

Times: Dinner 6:00 PM at Smugglers Inn

Program 7:30 PM

Reservations for both the dinner and the meeting are required and should be phoned into Ms. Royer at 830-3314 before October 24.



The above figure was taken from page 12 of the March 1978 issue of the IEEE COMMUNICATIONS SOCIETY MAGAZINE.

SOLAR POWERED BUILDING TOUR

The Power Engineering and Industrial Applications Society is sponsoring a tour on Tuesday October 17, 1978

at the

Reedy Creek Utility Company (WDW)

Speakers: Frank Jones, Project Engineer, and Jack Rabon, Night Utilities
Supervisor

This will be a tour of the Reedy Creek Utility Company Solar Powered Office Building and Central Energy Plant located at Walt Disney World.

RESERVATIONS ARE REQUIRED and will be limited to thirty people. Please call Jim/Lynes at 824-4674, by October 16.

FLORIDA ECLECTIC* 79 THIRD ANNUAL MINI AND MICRO COMPUTER SYMPOSIUM AND FAIR CALL FOR ABSTRACTS AND SESSION SPONSORS

This is the first annual conference sponsored by the Florida Council of IEEE (FCIEE). It is designed to promote the interest of Florida Electrical Engineers, and the interests of the electro-technology industries in Florida.

WHERE:

Florida Institute of Technology, Melbourne Florida

WHEN:

21, 22, 23 March 1979

bey \$ 352-2682 3

21 March: Microcomputer tutorial

22 March: What's new in Computer Hardware and Software

23 March: Computer and Microprocessor Applications

This conference will host exhibitors of the latest developments related to mini/micro computer, and microprocessor applications. Computer experts will be presenting their ideas and explaining the latest applications and equipment.

Those interested in sponsoring a technical session or in preparing an abstract for an outstanding presentation should contact the Technical Program Chairman:

Dr. Benjamin W. Patz: (305) 275-2816, or 2786

Box 25000, EECS

Florida Technological University

Orlando, FL 32816

*ECLECTIC -- Selecting what appears to be best in various doctrines, methods, or styles.

Mon ⁻	Tue	Wed	Thu	Fri	
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27					
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11	PEIA VTG	COMP*	CON —		DLO
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25					
		1 - 1			

Meetings and conferences of interest during October, November and December.

^{*} indicates tentative meeting date

ANNUAL BARBEQUE

SATURDAY OCTOBER 21, 1978

Dinner:

6:30 PM

Dance:

8:00 PM

Location:

Florida Power Bear Lake Recreational facility

Price:

\$7.00 per person (\$6.00 for students, and children)

Dinner will begin with a tossed salad, followed by steak with mushrooms, beans rolls, vegetables, and baked potatoe. Iced tea and coffee will be served with the meal, beer and soft drinks will available from the cash bar.

Following dinner, square dancing lessons will be given by Mr. Bill Ford, one of the areas better callers. These lessons will be for the pro's and neophytes alike.

Tickets are now available from members of the executive committee, listed on page 11 of this issue. Seating is limited so get your tickets NOW, tickets must be obtained before October 15, 1978.

STEAK DINNER!

SQUARE DANCING!

DOOR PRIZES!



COMPUTER SOCIETY

The Computer Society will be hosting a technical meeting on

Wednesday October 18, 1978

at the

Orlando Public Library

500 N. Rosalind Avenue

The topic will be on state of the art semiconductor products. Further details will be given by the Computer Society mailing. Anyone wishing to be placed on this mailing list, please contact: Mannie Connell 352-2110 (B) or 273-8588 (R).



THE LITTLE DMM WITH BIG OWNER BENEFITS

Measures

DC, AC Voltage

DC, AC Current

Resistance

Conductance

Features

True Portability

3-way Overload Protection

Easy-to-replace Batteries

LCD Indicators

8020A \$169 Designed for the widest possible range of applications, the 8020A offers every one of the important functions and features in demand today by DMM users, and more. Measurement performance is fully specified and clearly stated for every parameter, and conservative Fluke design means you get instrument specifications you can depend on. Low cost of ownership, worldwide Fluke service and a complete range of measurement accessories make the 8020A ideal for use by servicemen, engineers, technicians and hobbyists.

BCS ASSOCIATES ORLANDO, 1

940 N. FERN CREEK AVE. ORLANDO, FL 32803 305-896-4881 We cordially invite your participation at the Three-Day

"Microprocessor Programming Workshop with a 'Take-Home Microprocessor'

Hands-On Course

THURSDAY, OCTOBER 26 THROUGH SATURDAY, OCTOBER 28, 1978 BEST WESTERN BARCLAY AIRPORT 5303 WEST KENNEDY TAMPA, FLORIDA 33609 (813) 877-0534

AN IEEE EDUCATIONAL ACTIVITIES BOARD PROGRAM IN COOPERATION WITH THE FLORIDA WEST COAST SECTION





"Microprocessor Programming with a 'Take-Home' Microprocessor"

SPONSORED BY FLORIDA WEST COAST SECTION

DATE AND TIME

A THREE-DAY INTENSIVE WORKSHOP ON THURSDAY, OCTOBER 26, 1978 THROUGH SATURDAY, OCTOBER 28, 1978 FROM 8:30 A.M. TO 8:00 P.M. OCTOBER 28 UNTIL 4:30 P.M.

LOCATION

BEST WESTERN BARCLAY AIRPORT 5303 WEST KENNEDY TAMPA, FLORIDA 33609

FOR WHOM INTENDED

- The practicing engineer who needs to learn microprocessor systems and programming.
- The engineering manager who must oversee development of microprocessor-based systems and who wants a better understanding of microprocessor technology.
- The programmer who wants to learn how to program a microcessor.

ADDITIONAL INFORMATION

IF YOU NEED MORE INFORMATION, CALL MARY ANN SMITH, LOCAL WORKSHOP CHAIRMAN 961-4957

COURSE OUTLINE

1ST DAY

1ST DAY
Why Microprocessors, M6800 Overview, Elementary Programming (beginning with Interrupt), Bit Handling, Laboratory Exercises.

2ND DAY

Indexing, Tables, Controllers, Numerical Processing, Decimal, Laboratory Exercises.

3RD DAY

Overview of Higher-Level Languages, System and Product Development, Look-Ahead, Laboratory Exercises.

COURSE OBJECTIVE

To provide state-of-the-art information and enable the attendees to acquire specifically:

- An understanding of the place of microprocessors as replacements for wired logic and as controllers.
- The capability of undertaking the design of systems involving microprocessors.
- The ability to program with facility one microprocessor (Motorola M6800) in machine language and apply this knowledge to other systems.

The emphasis throughout this workshop will be "total immersion". This will enable the attendee to acquire a vast knowledge of microprocessor technology in a very short time. Individuals registering for this course should consider this time demand.

LABORATORY "HANDS-ON" EXER-CISES: The student will have his/her own microprocessor and lab equipment and will have an opportunity to do experiments any time, day or night. Laboratories are based on this Motorola kit and include additional "Outrigger" boards which contain devices for numerous programming exercises. These include simple input via keyboard, output on LED's and on seven-segment displays, and on seven-segment displays, traffic-signal control, timing, clock operation, data acquisition, analog processing, chip diagnosis, music output, and much more. The student may select those exercises that interest him/her.

If possible, the registrant should bring a standard audio cassette recorder (for saving programs).

☐ IEEE-unit co-sponsorship

Intensive workshop on "Microprocessor Programming with a 'Take-Home' Microprocessor"

FLORIDA WEST COAST SECTION

ADVANCE REGISTRATION MUST BE RECEIVED BY OCTOBER 2, 1978

☐ Member \$475.00 ☐ Non-Member \$525.00 Registration at the door: Member *500.00 Non-Member \$595.00

Mail completed form to: IEEE SERVICE CENTER 445 Hoes Lane Piscataway, N.J. 08854

Enclosed is my check (paya following registration fees:	ble to IEEE) in the amount of \$		_ to cover the
Name			
Company			
Address		Apr	
City	State	Zip	
Position			
Business Phone			
IEEE Member #			
		PR 84-	

lease send information on IEEE Short Courses for
In-plant presentation



Orlando, Florida April 30 - May 2, 1979

STEERING COMMITTEE R.E. Henning, Chairman College of Engineering University of South Florida Tampa, Florida 33820 (813) 974-2287

TECHNICAL PROGRAM J.L. Allen, Chairman College of Engineering University of South Florida Tampa, Florida 33620 (813) 974-2581

J.C. Wiltse, Co-Chairman Engineering Experiment Station Georgia Institute of Technology Atlanta, Georgia 30332 (404) 894-3494

FINANCE R.H. Tate, Chairman Hewlett Packard Company P.O. Box 13910 Orlando, Florida 32809 (305) 859-2900

PUBLICITY W.E. Clausen, Chairman Sperry Microwave Electronics P.O. Box 4648 Clearwater, Florida 33518

LOCAL ARRANGEMENTS, REGISTRATION AND HOSPITALITY 1, Pullara, Chairman Martin-Marietta Aerospece P.O. Box 5837 Orlando, Florida 32805 (305) 352-4516

DIGEST PUBLICATIONS J.E. Tracy, Chairman Martin Marietta Aerospace Orlando, Florida 32805 (305) 352-4448

EXHIBITS LIAISON H. Ellowitz Horizon House 610 Washington Street Dedham, Massachusetts 02026 (617) 326-8220

FIRST CALL FOR PAPERS

The 1979 IEEE MTT-S International Microwave Symposium will be held at the Sheraton-Twin Towers Hotel, Orlando, Florida. The symposium theme is "The World of Microwaves" emphasizing the ever-increasing role of microwaves in today's world.

Papers are solicited describing original work in the field of microwaves. Material submitted should not have been previously presented or published. Although any papers concerned with microwave techniques, devices, systems and applications will be considered, the following subject areas are regarded as particularly appropriate for this conference.

- Computer Aided Design and Measurement Techniques
- Microwave and Millimeter Wave Solid State Devices
- Microwave and Millimeter Wave Integrated Circuits
- Low Noise Techniques
- Microwave Passive Components and Networks
- Microwave Ferrite Devices
- High Power Techniques

- Radiometry and Remote Sensing Systems and Applications
- Satellite Communication/Microwave Systems
- Submillimeter Wave Techniques and Devices
- Integrated Optics, Fiber Optics and Optical Techniques
- Microwave Accoustics
- Microwave Field and Network Theory
- · Microwaves in Medicine
- Technology Forecasting and New Ideas

Authors are requested to submit both a 35 word abstract and a 500-1000 word summary (up to 6 illustrations), clearly explaining their contribution, its originality, and its relative importance. Abstracts and summaries (5 copies) must be received on or before December 1, 1978 by:

Dr. James L. Allen TPC 1979 MTT-S Symposium Electrical and Electronic Systems University of South Florida Tampa, Florida 33620 USA

Notices of acceptance or rejection will be mailed to authors by January 20, 1979. At that time authors of accepted papers will receive forms and instructions for preparing material to be printed in the Symposium Digest.

The local arrangements committee could still use some assistance with the conference. To assist, contact Joe Pullara at 352-4516 (B) or 339-1327(R).

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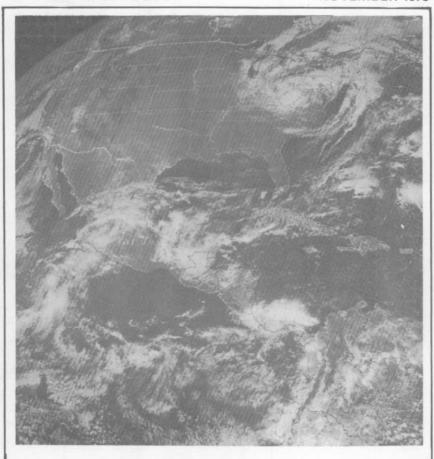
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ORLANDO SECTION NOTES

VOLUME XIII, NUMBER 3

NOVEMBER 1978



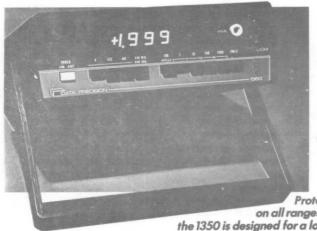
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CHAIRMAN'S CORNER

We have an excellent program of technical meetings planned for you this year. But if we are to be successful you must be willing to take advantage of our programs. I urge all of the Orlando Section members to support your groups and societies.

I wish to thank Gayle Fairless our new Publications Chairman for doing such a good job in getting the NOTES out to you this month. Gayle deserves our support in this most beneficial undertaking.



The Florida Council of I.E.E.E. will hold an important state meeting at the Orlando Jet Port Inn on Saturday, November 4, 1978 at 9:00 A.M. Orlando Section IEEE members are invited to attend this important meeting where registration issues will be the topic.

As of (1 September 1978) the IEEE Section membership stands at 643. The breakdown is as follows:

SOCIETY	G/S Code	MEMBERS ALL GRADES
Computer Society	(S16)	123
Communications Society	(S19)	61
Aerospace and Electronics Systems	(S10)	41
Power Engineering—		
Power Apparatus & Systems	s (S31)	34
Industry Applications	(S34)	
Microwave Theory & Techniques	(S17)	19
Vehicular Technology	(S06)	14
TOTAL G/S AFFILIA	TION	292
No Group/Society Affiliation		351
ODI ANDO CECTIO	AT MOMAT	649

ORLANDO SECTION TOTAL

643

TAPS We are saddened by the passing of George Wade Brown on Tuesday October 10, 1978. Wade was the Section Membership Chairman from 1971 through 1974. He had been an active and valued member of our section.

Russ Theisen Section Chairman

IMAGING RADAR TECHNIQUES

The Microwave Theory and Techniques Society is sponsoring a technical meeting:

Tuesday, November 14, 1978

Hewlett Packard Company 6177 Lake Ellenor Drive Orlando, Florida 32809

Speaker: Fred P. Wilcox

Title: IMAGING RADAR TECHNIQUES

Meeting Time: 7:15 P.M.

Dinner & Cocktails: Gary's Duck Inn Restaurant

South Orange Blossom Trail

Orlando, Florida at 5:30 P.M.

Speaker and topic information:

Present day X-band airborne imaging radar systems depend on pulse compression and synthetic aperture to obtain high resolution. This talk will discuss in general terms the basic fundamentals of high resolution coherent side looking synthetic aperture radar. The theory of Chirp, azimuth beam sharpening and motion correction will be discussed. Examples of imagery taken with a high resolution X-band radar and with a 95 GHz narrow pulse real beam radar will be shown and compared. The performance and complexity of the two systems will be contrasted.

Fred P. Wilcox received a BSEE degree from the University of California, Berkeley and MSE degree from Arizona State University. He is presently involved in the design, development, and promotion of millimeter wave radar for both fire control and seeker applications at Martin Marietta Aerospace.

Prior to joining Martin Marietta, Mr. Wilcox spent sixteen years with Goodyear Aerospace where he was intimately involved in the design and development of advanced synthetic aperture radar systems and millimeter wave radar design, development, and application. He has conducted analysis and made predictions on many conceptual radar designs. Mr. Wilcox directed the design, fabrication, and test of a 95 GHz imaging radar.

COVER: Satellite Photograph provided by Harris Corporation which hosted a meeting by the Optical Society of America October 7, 1978 in Melbourne, Florida.

SOLAR ENERGY AND CONSERVATION

The American Institute of Aeronautics and Astronautics is sponsoring a technical meeting on Thursday, November 9, 1978 at the Mariott Inn on Sand Lake Road and International Drive. The speaker is **William H. Boggs**, Energy Projects Co-ordinator for NASA—Kennedy Space Center.

Social Hour:

6:30 P.M.

Dinner: Program: 7:30 P.M. 8:30 P.M.

Tickets:

\$9.00 (1/2 price; new members)

To get tickets, contact Giovanni Bonfanti at (305) 352-4341.



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Orlando, Florida April 30 - May 2, 1979

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FIRST CALL FOR PAPERS

The 1979 IEEE MTT-S International Microwave Symposium will be held at the Sheraton-Twin Towers Hotel, Orlando, Florida. The symposium theme is "The World of Microwaves" emphasizing the ever-increasing role of microwaves in today's world.

Papers are solicited describing original work in the field of microwaves. Material submitted should not have been previously presented or published. Although any papers concerned with microwave techniques, devices, systems and applications will be considered, the following subject areas are regarded as particularly appropriate for this conference.

- · Computer Aided Design and Measurement Techniques
- Microwave and Millimeter Wave Solid State Devices
- Microwave and Millimeter Wave Integrated Circuits
- Low Noise Techniques
- Microwave Passive Components and Networks
- Microwave Ferrite Devices
- High Power Techniques

- · Radiometry and Remote Sensing Systems and Applications
- Satellite Communication/Microwave Systems
- Submillimeter Wave Techniques and Devices
- Integrated Optics, Fiber Optics and Optical Techniques
- Microwave Accoustics
- Microwave Field and Network Theory
- Microwaves in Medicine
- Technology Forecasting and New Ideas

Authors are requested to submit both a 35 word abstract and a 500-1000 word summary (up to 6 illustrations), clearly explaining their contribution, its originality, and its relative importance. Abstracts and summaries (5 copies) must be received on or before December 1, 1978 by:

> Dr. James L. Allen TPC 1979 MTT-S Symposium Electrical and Electronic Systems University of South Florida Tampa, Florida 33620 USA

Notices of acceptance or rejection will be mailed to authors by January 20, 1979. At that time authors of accepted papers will receive forms and instructions for preparing material to be printed in the Symposium Digest.

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ORLANDO SECTION

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tastos. ZERO ADJUSTMENT
The zero alluments can be used to compensate for land resistance of up to 20 U, or DC offsets of up to 20 U, or DC offsets of up to 2 nV. A different zero offset may be stoyed for each channel. Temperature and any one of the remaining functions can be salected simultaneously to measure temperature on champis 1 and 2 plus voltage or resistance on champis 2 and 4. Measurements may be automatically subtracted, multiplied of disolded by a constant (*zerberonca) which can be entered via the manual entry keys-Similarily, a time offset can be entered to synchrotice the timer with the time of day. Math functions can be performed on the first three channels (X-inputs) with respect to a measured input on the fourth channel of a stored constant (Y-reformed). Forward voltage drop of the dis displayed directly in volts. DIODE TEST MANUAL ENTRY KEYS DATA MANIPULATION FLEXIBILITY MIXED MEASUREMENT FUNCTIONS

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ORLANDO SECTION NOTES



VOLUME XIII, NUMBER 4 DECEMBER 1978

CHAIRMAN'S CORNER

Living in the most active tourist area in the nation focuses a great deal of interest in our Section as a Conference Sponsor. We have been requested to host far more conferences than we have manpower to successfully handle. I need your help with these and the many zealous programs that our Section is planning this year. Can you help? ——Call me at 352-3810 during the day or at 671-4134 in the evening and I will be glad to tell you how.



We are in need of a new membership chairman for the section. Business commitments have forced Bill Cram to resign the post.

The IEEE Board of Directors has asked for our help in determining the wording of two policy statements on registration. (7.4 Protection Of The Public and 7.100 Registration Of U.S. Engineers). These statements are outlined in this issue. Please review the statements and let me know.— Better still, phone or write your comments to:

IEEE Headquarters Neil Pundit Technical Activities Director 345 East 47th St. New York, NY 10017 (212) 644-7890

> Russ Theisen Section Chairman

MTT SOCIETY

Meeting Notice FACILITY TOUR

Facility: Wall Street Journal - Satellite ground station,

facsimile receiving and printing.

Address: 2301 Presidents Drive, Orlando

Date & Time: December 7, 1978, 8:30 P.M.

Reservations: Required. Call chapter officers.

(Maximum attendance 20)

In response to our past chairman Dean Bowyer's "MTT Meeting Survey", many requests were received for facility tours. Therefore, we have planned this first tour to The Wall Street Journal and depending upon the membership participation in this tour, more will be planned for the next year.

The Orlando printing facility of The Wall Street Journal is about four years old. This was the first facility to produce and distribute a daily newspaper through a microwave communication satellite system. During the tour, you will see the satellite operation, the resulting full page facsimile negative, offset plate process, printing automated labeling and automated mailroom.

For further information, please call your chapter officers.

Chairman:

Dr. Deen Khandelwal

352-2339

Vice Chairman:

Joe Stever 352-4593 Secretary:

Steve Gray 352-4560

POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

Power Engineering & Industrial Applications Society is sponsoring a technical meeting at the Turner Generating Plant located on the north side of Lake Monroe (take the Enterprise exit off I-4).

TIME: 6:30 P.M. on December 12, 1978

Call Joe Miller at 646-8236 by December 7th for reservations and directions.

COMMUNICATIONS SOCIETY COMPUTER SOCIETY

Stromberg-Carlson System Century DCO (Digital Central Office)

The Communications and Computer Societies are sponsoring a meeting and plant tour on December 14, 1978 at

Stromberg-Carlson Corporation Rinehart Road Lake Mary, FL

Dinner:

6:00 P.M. at Lord Chumleys Pub

Program:

7:30 P.M. in Stromberg-Carlson's OMNI Center

Reservations for both dinner and the meeting are required and should be phoned into Ms. Royer at 830-3314 by Tuesday, December 12, 1978.



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Board of Directors

SPECIAL REPORT: REGISTRATION

Registration—an open letter to IEEE's members requesting your views.

Dear Colleague,

IEEE's Board of Directors needs your informed comment on one of the most important and controversial professional matters ever to face our society: REGISTRA-TION.

For one and on-half years now, your Board of Directors has been struggling with a variety of proposals regarding an IEEE policy on registration. Most recently, during its August 28-29 meeting, the Board resolved to set before both IEEE's volunteer officers and the membership as a whole a "Summary report on the issue of registration of engineers," based on the combined inputs of IEEE's Ad Hoc Committee on Registration and the Executive Committee of IEEE. In addition, the Board determined to make available to every member, on request, a copy of the more detailed report considered by the Board.

Reprinted here is the "Summary Report," which con-

tains several alternative recommendations for IEEE policy. Further, a coupon has been provided following this "Summary Report," which will allow you to order the unabridged report if you so desire.

In as much as your Board will attempt to resolve 18 months of debate by drafting and adopting an IEEE policy on registration at its December meeting, it is our hope that you will carefully study the alternatives proposed and send us your comments before mid-November. You may communicate with any member of the Board, but please send a copy of all such correspondence to IEEE Headquarters, Attention: General Manager.

Thank you for your attention to this matter of vital concern to all of us.

Sincerely, Ivan A., Getting President

Summary of Report to IEEE Board of Directors on the issue of Registration of Engineers

IEEE policy on registration, licensing, and related matters has been under intensive review for almost two years. At its November 1977 meeting, the Board of Directors voted to hold in abeyance any implementation of the IEEE Policy Statement on Engineering Registration adopted in February 1977 pending a report by an Ad Hoc Committee appointed by the President at the request of the Board. The Ad Hoc Committee made a preliminary report to the Board in May 1978. The Report was subsequently revised by the Ad Hoc Committee and by the Executive Committee. At its August meeting, the Board considered the revised Report and other related proposals and took the actions which are described below. At this same time, it was determined by the Board that on one registration policies should be adopted without substantial feedback from the membership. The Board authorized the release of this summary for publication and distribution through all appropriate

media, with the request that comments from the membership be submitted by November 15 in time for consideration by the Board at its meeting in December.

The full text of the Report to the Board on the issue of registration of engineers may be obtained upon request to the General Manager at IEEE Headquarters. General Policy Statement 7.4—

Protection of the Public

The Board proposed to adopt a broad, or general, policy that would be applicable to all Regions. Attachment A is the proposed statement of "J.A"—Protection of the Public." It treats "registration" as a means for promoting the public welfare. As a transnational society, IEEE must in its overall policies formulate them in a manner consistent with universal application. Each country, and often subelements of each country, establishes laws and regulations compatible with its perceived needs. It is therefore suggested that the state-

ment on registration to be included in the overall IEEE (transnational) policy portion be stated in a manner which expresses the fundamental and valid purposes for licensure and registration of engineers—namely. "to protect the public health, safety, and welfare." This Policy 7.4 thus becomes the blanket policy within which any entity of IEEE may develop appropriate further refinement.

USAB Policy Statement 7.100— Registration of U.S Engineers.

The Board proposed to adopt a more explicit policy applicable to residents of the U.S.A., which assumes the existence of the broader proposed Policy Statement 7.4 and focuses on registration procedures, reciprocity, and exemptions. This proposed policy currently has three paragraphs; the Board voted to endorse paragraphs (A) and (B) but desires input from the membership on paragraph (C). The text for the proposed Policy Statement 7.100 with the endorsed paragraphs (A) and (B) only, appears in Attachment B.

The Board considered a range of possible requirements for registration of engineers, including:

All those doing engineering work should be licensed and registered;

 There should be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of engineering offered to individuals or organizations;

3. There should be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of any engineering service or product offered to individuals or organizations, that is an end use of the work or product.

The Board agreed that the first alternative was unacceptable to the U.S. membership of IEEE.

The Board concluded that (2) and (3) represented the views of substantial numbers of IEEE members. There are, therefore, in Attachment C two statements of paragraph (C) consistent with the two alternatives.

In effect, version 1 limits the need for registration to engineers who prepare designs and specifications for use by others in the fabrication of a product—particularly where such products have a significant impact on the safety of the public. It thus exempts from registration engineers who are employed by a product-producing company on the basis that the manufacturer is subject to product safety and liability.

In effect, version 2 requires a sign-off by a registered engineer of any end product and service which may affect the safety of the public. This version holds that the requirement for engineering registration should be based on the job performed and how it affects the public and should not depend on who is the engineer's employer.

Resolution—Establishment of Ad Hoc Committee on Certification

Consideration of the above matters led the Board into discussion of certification and other means to identify qualified members, and endorsement of a Resolution calling for the establishment of an Ad Hoc Committee on Certification. This Resolution is Attachment D.

Alternative Versions of Proposed Policies 7.4 and 7.100
The Board received alternative versions of proposed
Policies 7.4 and 7.100. These alternative versions add
statements which go beyond the basic purposes for
registration. While these were not endorsed, the Board

requested that they be disseminated for information purposes. (See Attachments E and F)

The Board of Directors looks forward to receiving comments from the membership on the attached proposals by November 15, in time for consideration by the Board at its December meeting.

ATTACHMENT A

Proposed IEEE Policy Statement 7.4— Protection of the Public

The IEEE recognizes the obligation of the profession to protect the health, welfare, and safety of the public. Where legislation, regulations, codes, or customs impact on electrical and electronics engineering, the Institute shall interface whenever and wherever appropriate with legislative and regulatory bodies. In particular, legislation may include the establishment of qualifications of engineers and the registration and/or licensure of engineers. In furtherance of this policy, the IEEE.

- A. Offers advice and assistance to legislative and requiatory entities;
 B. Encourages the establishment of uniform laws as being in the public.
- interest;
 C. Recommends that there be a minimum of restrictions of a legal
 - nature in the functioning of qualified engineers;
 D. Offers advice and assistance to Boards of Engineer:::g Examiners and similar agencies:
 - E. Recommends that, upon request, committees of IEEE members cooperate with appropriate agencies in the development of sound registration examinations which will adequately protect the public in-

ATTACHMENT B

Proposed USAB Policy Statement 7.100— Registration of U.S. Engineers

The IEEE, in furtherance of IEEE Policy 7.4 (Protection of the Public) and IEEE Policy 7.8 (Code of Ethics for Engineers), as they apply to the U.S., recognises the need for legislation concerning licensure and registration of engineers in order to protect the health, safety, and welfare of the public. In furtherance of this policy, the IEEE.

weather on the pount. In full interests on the pount regularity in a full regularity of the A. Farticipates actively in the development of sound regularity protect the public interest while importing a minimum of restrictions on the practice of qualified engineers;

B. Promotes complete reciprocity through uniform requirements for licensure and regularity.

ATTACHMENT C

Proposed USAB Policy Statement 7.100— Registration of U.S. Engineers

Alternative versions of paragraph C of Policy 7.100 recognized by the Board of Directors as representing the views of a substantial number of U.S. members:

Version 1

C. Recommends that there be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of, engineering* offered directly to the public.

Version 2

As a long-term goal contingent upon progress in A and B above, the IEEE recommends:

C. That there be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of, any engineering" service or product offered to individuals or organizations that are end users of the service or product. • The wages of cauto fitter profession and the same of the same of the cauto fitter and the cauto fitter in School profession for the fitter and fitter

ATTACHMENT D

RESOLUTION

Establishment of Ad Hoc Committee on Certification

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BE IT FURTHER RESOLVED, may have each be performed by an Ad-Zes of immerses, are along deep reserve twested the Line Range Plann, and Committee. Let Admission and Admission reference Committee, the Extract and Admission Board, the Southard Admission Board, the Let man Admission Plann and the Time of the Admission Board, the Let man Admission Plann and the Time of the Admission Board and time for the Committee Co

ATTACHMENT E

Alternative Version of IEEE Policy Statement 7.4— Protection of the Public

(Not endorsed by the IEEE Board of Directors) provided for information purposes. New wording underscored.)

The IEEE recognizes the obligation of the profession to protect the health, welfare, and safety of the public.

In discharging this obligation, the IEEE urges members of the profession to qualify themselves through appropriate mechanisms such as registration, certify ation, chartering or other legal or extra-legal processes, or that the public and the profession may know who has been judged to meet a certain set of manimum standards for the profession.

Furthermore, where legislation, regulations, codes, or customs impact on electrical and electronics engineers, the Institute shall interface whenever and wherever appropriate with legislative and regulatory bodies. In particular, legislation may include the establishment of qualifications of engineers and the registration and/or licensure of engineers. In furtherance of this policy, the IEEE:

A. Offers advice and assistance to legislative and regulatory entities:

B. Encourages the establishment of uniform laws as being in the public interest;

of the engagest that there has a minimum, it is extractional of a confidence of the function of the executional organization.

Discussion against and accepted to Book to the passes of Parameter and similar outsides

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ATTACHMENT F

Alternative Version of USAB Policy Statement 7 100 Registration of U.S. Engineers

Has enacted by likk Board of Director is taked to

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The IEEE, in furthermore of IEEE Policy is distributed for the Fuldiet and IEEE Policy 7.8 (Code it Editors for Enumerical as they appear for the U.S. to increase the root via explainture experience for enumerical in order to protect the vesial, safety, and westure of the public. In turthermore it can policy, the IEEE.

A type us members who use the type express to be resisted in one or more cursidences so as a signify to the public and their collections that they have not the summan shouldards of the profession.

E # Participates actively in the development of sound registration procedures which will edequately protect the public inferest while imposing a minimum of restriction on the practice of qualified engineers:

C # Promotes complete reciprocity through uniform requirements for licensure and registration;

D. F. Herrmmends that there be a cressed and registered engineer in direct control and personally supervising, or with responsibility for approval of concerns, which will be abled to public directly the pub

E. Urges that the title "engineer" be assigned by industry, government, and private protitioners only to those who hold a bacalaureate or higher degree in engineering or are registered as an engineer in one or more of the several jurisdictions.

	d Report on the n of Engineers		
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City	State		Zip

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IEEE ENGINEERS WEEK AWARDS PROGRAM

CALL FOR NOMINATIONS

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- The quality and quantity of contributions through efforts on Research, Development, Design, Managerial, Educational and other equivalent engineering areas. (70)
- 2. Contributions to the IEEE. (10)
- 3. Publications, Patents, and associated activities. (10)
- Memberships, Accomplishments, and Responsibilities in other technical and Professional groups and activities and in various activities of benefit to the Community and Society in general. (10)

PRESENTATION OF CANDIDATES AND AWARDS

Each nomination entity will provide a three minute introduction of their candidate. Each Chapter nominee will receive a framed certificate as Chapter Engineer-of-the-Year. The candidate selected as Central Florida Electrical Engineer of the Year will receive a plaque. No other plaques will be presented at this meeting.

Bruce E. Mathews Chairman, Awards Comm. 2111 Dyan Way Maitland, Florida 32751

IEEE COMPUTER SOCIETY

FLORIDA ELECTIC* 79

Third Annual Mini/Micro Computer Symposium and Fair Call for Abstracts and Session Sponsors

This is the first annual conference sponsored by the Florida Council of IEEE (FCIEEE). It is designed to promote the interest of Florida Electrical Engineers, and the interests of the Electro-Technology Industries in Florida.

WHERE: Florida Institute of Technology, Melbourne, FL.

WHEN: 21,22, & 23 March 1979

21 March: Microcomputer Tutorial

22 March: What's New in Computer Hardware and Software

23 March: Computer and Microprocessor Applications

This conference will host exhibitors of the latest developments related to Mini/Micro Computer, and Micro-Processor, applications. Computer experts will be presenting their ideas and explaining the latest applications and equipment.

Those interested in sponsoring a technical session of in preparing and abstract for an outstanding presentation should contact the technical program chairman:

Dr. Benjamin W. Patz (305) 275-2816, or 27866 Box 25,000 EECS Florida Technological University Orlando, FL 32816

* Eclectic - selecting what appears to be best in various methods or styles.

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Student Activities	Dr. Richard C. Harden	855-0881	855-5775
Student Chapter (FTU)	Robert B. Stafford	275-2786	275-4603
Member-at-Large	Homer Wilson	646-8230	855-0934
Member-at-Large	Eugene V. Dashiell	859-2900	859-2497
Member-at-Large	Jim Gay	645-1510	644-7884
Member-at-Large	Fred Simmon	257-2786	647-7316
Member-at-Large	John Tracy	352-4448	859-1214

SOCIETY CHAPTER CHAIRMEN

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MTT	Deen D. Khandelwal	352-2339	277-5959
PE&IA	Jim Lynes	824-4674	1-847-9453
VT	Mel Kelch	843-8484	859-1533

The ORLANDO SECTION NOTES are published monthly except July and August by the Orlando Section of IEEE. The NOTES are subsidized by advertising and inquiries regarding rates should be addressed to: William A. Kownacki, NCR Corp., E&M Orlando, 584 Lake Emma Rd., Lake Mary, FL 32746. News items should be forwarded to the Publications Chairman at the phone number above. This Executive Committee meets the first Tuesday of each month in the Alpha Room of the John Young Museum at 5:30 PM and is open to all IEEE members.

ORLANDO SECTION I.E.E.E. ORLANDO, FLORIDA

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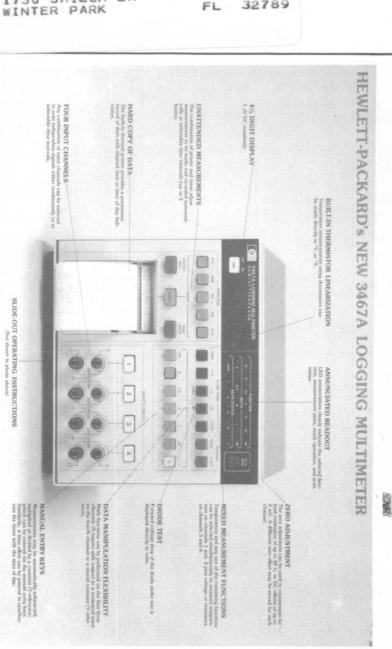
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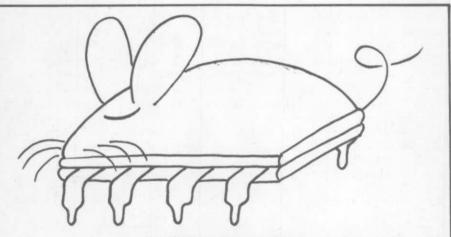
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ORLANDO SECTION NOTES

VOLUME XIII, NUMBER 5 JANUARY, 1979



FTU MOUSE EYES MAZE

The IEEE student section has been hard at work on a micro-computer-controlled "mouse" in response to the IEEE Spectrum contest. The mouse is built on a circular body and is propelled by two independently-controlled motors. An optical system senses openings in the wall, corresponding to alternate paths through the maze, and the device is kept centered by a mechanical system working through potentiometers. Control of the mouse is through an INTEL microprocessor mounted on top. The mouse is completely self-contained and is powered by NiCad batteries. Construction is not complete; testing of the microprocessor system is the present phase of operation.

The contest involves three runs through an unknown maze, with the third run timed. Other contests slated for the FTU Micro-Mouse include competition against the Psychology Departments finest, and a race against a commercial device recently purchased by the Engineering Mathematics and Computer Systems "Department". The mice people are Bill Clem, Allan Geeslin, Steve Fruit, Tom Riordan, Tom Shuminsky, Roger Uithoven, Bill Sedig, John Walker, and Sue Wymer.

Bob Stafford Student Chapter Chairman, FTU

CHAIRMANS CORNER

Next month we shall honor the outstanding engineers during Engineers Week at our Banquet on February 17, 1979. Each Group and Society has the responsibility to make nominations for the Engineer of the Year Award. The deadline for these nominations is January 15th, but I urge you to submit them this week because the Florida Engineering Society requires that its inputs for Engineer of the Year, Engineering



Technician of the Year, and Outstanding Organization of the Year be submitted by January 5th. If you know of someone who has done an outstanding job as an engineer, contact Dr. Bruce Mathews or Bill Rhoden with your nomination (see the list of officers on inside back cover for telephone numbers). Former Senator Lou Frey has been invited to speak to the Section on Engineers Week Awards night. I am inviting you all to attend this special recognitions night.

The National election results are in with the following results:

President 1979 Jerome J. Suran **Executive Vice-President** Leo Young Region #2 Director William C. Farrell Region #4 Director Peter A. E. Rusche Region #6 Director Charles A. Eldon Region #8 Director Dick C. J. Poortvliet Division II Director F. A. (Tony) Furfari Division IV Director Lawrence K. Anderson Divison VI Director Thelma Estrin Division VII Director John E. Barkle

The Constitutional amendment for the direct membership election of the Executive Officers failed to pass.

Since the Orlando Section was granted its charter in 1963 by the IEEE, fifteen dedicated engineers have passed the Orlando Sections Gavel on to his successor. I take this opportunity to list the each name inscribed on the Section Gavel and the year of his service as Chairman:

			O STATES STREET
1963	E. A. Houseman	1971	J. L. Gay
1964	R. R. Rowell	1972	E. V. Dashiell
1965	W. M. Jamieson		K. L. Lohman
1966	J. M. Walter	1974	J. C. Wiltse
1967	J. E. Tracy	1975	H. E. Downing
1968	J. W. Dees	1976	E. R. McCarter
1969	M. J. Taylor		W. H. Rhoden
1970	J. C. Pullara	1978	R. E. Theisen
			1 1 1

I am proud to have my name among those who have had the opportunity to serve the Orlando Section.

MTT SOCIETY

MEETING NOTICE MAX R. YODER

Office of Naval Research

Electronic & Solid State Science Program Arlington, Virginia 22217

"EXTREMELY HIGH FREQUENCY INTEGRATED CIRCUITS"

Date:

Tuesday, January 9, 1979

Time:

7:15 P.M.

Place:

Hewlett Packard Co., 6177 Lake Ellenor Dr., Orlando

Cocktails

5:30 P.M. at Gary's Duck Inn Restaurant

and Dinner:

3974 South Orange Blossom Trail

Abstract

Monolithic integrated circuits operating above 1GHz will be addressed. Both analog and digital devices will be described. Technologies include active devices such as FETs, TELDs, and Josephson junctions. Illustrations of all will be presented along with their measured and projected capabilities, limitations, and new systems concepts which they may engender.

MAX R. YODER received his B.S.E.E. degree from Purdue University and M.S.E.

degree from George Washington University. He is presently involved with the development of

microwave semiconductor device technology. Prior to his present assignment, Mr. Yoder served as an officer in the U.S. Navy. In 1963 he went to work for the Naval Research Laboratory, where he has designed microwave acoustic delay lines, initiated development of the first instantaneous frequency measurement EW receiver, and initiated development of EBS amplifiers. He has been responsible for the conception and initiation of the integrated multipurpose electromagnetic system (IMPS) and development of Sabo technology for guns.

For further information, please contact your chapter officers.

Chairman: Dr. Deen Khandelwal, 352-2339 Vice Chairman: Joseph Stever, 352-4593 Secretary: Steven Gray, 352-4560

MEETING NOTICE COMPUTER SOCIETY

January 8, 1979 Jane Liu

Meeting: 7:00 P.M. FTU Resident Center, Lake Ellenor Drive,

Orlando Central Park

Topic: Intelligent Magnetic Bubble and Their Application in DBMS

Biography: Dr. Jane Liu is on the faculty of the Department of Computer Science at the University of Illinois. Her current research activities are in the areas of modeling and performance evaluation, design of fail-safe Data Communication Networks and Data Base Machine Architectures. She is the editor of Data Base Engineering Bulletin and is on the editorial Advisory Board of ACM Transactions on Data Base Systems.

ABSTRACT 1

The design of intelligent magnetic bubble memories will be presented. Such memories may be used to enhance the performance of a query interface by supporting high-level data base management functions. It was our intent to explore ways of incorporating the novel bubble chip organizations and data rearrangement operations in the design of such memories. In particular, we evaluated the performance of various memory organizations and storage organizations which can be achieved through their use. Retrieval times per word and per page were the parameters used to evaluate the different memory organizations. Performance of hierarchical memory systems using bubble memories will be discussed. The unique features of magnetic bubble memories were used in designing algorithms for elementary file processing operations and for basic relational algebraic operations. An architecture of intelligent magnetic bubble memory designed to support directly the relational data model and to enhance a relational algebraic interface will be discussed.

CHAIRMAN Don Mendorf, Stromberg Carlson, 339-1600 x137 VICE CHMN. PGMS. Joe Massett, Martin Marietta, 352-2208 VICE CHMN. MEMB. Mannie Connell, Martin Marietta, 273-8588 SECRETARY Gerry White, NTC, 646-4201

COMMUNICATIONS SOCIETY

JANUARY MEETING

QUIP FACSIMILE SYSTEMS
QUIP II

Date: January 18, 1979

Dinner: 6:00 P.M. at Lord Chumleys

Meeting: 7:30 P.M. at QUIP,

Cranes Roost, Altamonte Springs

(behind Altamonte Mall)

Please call Mrs. Royer at 830-3314 for reservations for the dinner or tour by January 16, 1979.

SOUTHEASTCON - 79 CONFERENCE & EXHIBIT HOTEL ROANOKE - ROANOKE, VIRGINIA APRIL 1-4, 1979

The 1979 IEEE Region 3 Conference, SOUTHEASTCON - 79, will be held in Roanoke, Virginia in the heart of the beautiful Blue Ridge Mountains. The Virginia Mountain Section will be your host for the conference, covering all aspects of the theory and practice of electrical engineering.

The Hotel Roanoke, site of the Conference, is noted for its Southern hospitality and outstanding accommodations.

A variety of activities are planned, including technical and student papers, professional and Region 3 committee meetings, and pertinent technical exhibits. Tours of local areas include visits to Virginia Polytechnic Institute & State University, Smith Mountain Hydro Plant, General Electric Company, Lone Star Cement Company, and the Times-World newspaper.

The ladies program will include tours of scenic and historic interest as well as mill outlet shopping.

Jerry Surran, nominee for IEEE president, will be the keynote speaker. He is manager of General Electric's Electronics Lab in Syracuse, New York.

For more information and reservations contact:

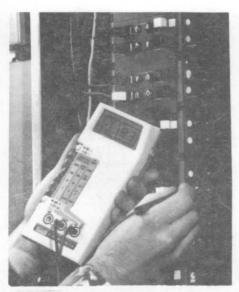
K. Reed Thompson, General Chairman 1501 Roanoke Boulevard Salem, Virginia 24153

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	26	27	28			

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POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

The Power Engineering Society and Industrial Applications Group is sponsoring a technical meeting on January 12, 1979 at 7:30 P.M. For other details, contact Joe Miller at 646-8236 or Jeff Dick at 352-3326



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Member-at-Large	Homer Wilson	646-8230	855-0934
Member-at-Large	Eugene V. Dashiell	859-2900	859-2497

SOCIETY CHAPTER CHAIRMEN

Jim Gav

Fred Simons

John Tracy

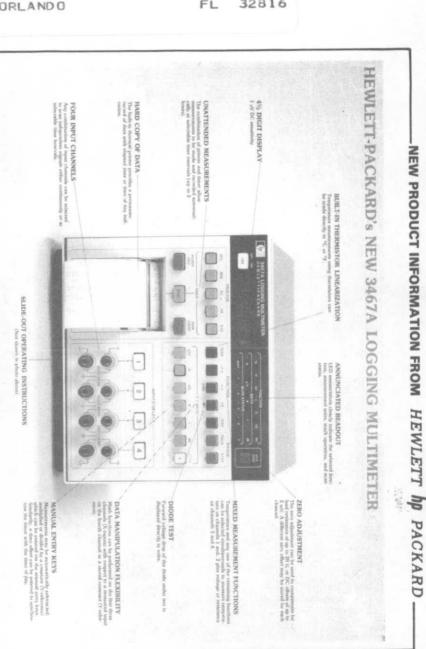
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ORLANDO SECTION NOTES



VOLUME XIII, NUMBER 6 FEBRUARY, 1979



IEEE ENGINEERS WEEK AWARDS BANQUET

SATURDAY, FEBRUARY 17, 1979
QUALITY INN, I-4 and 434, LONGWOOD, FL.
6:30 SOCIAL - CASH BAR • 7:30 DINNER - BUFFET
SWEEDISH MEAT BALLS, FRIED CHICKEN WINGS, BAKED HAM, ROAST TURKEY
VEGETABLES, SALAD, DESSERT

8:30 PROGRAM

"PROGRESS IN REVIEW" BY FORMER CONGRESSMAN LOU FREY, JR. \$9.00 INCLUDING TAX AND GRATUITY \$8.00 STUDENTS

Advance tickets (required) are available from members of the executive committee (page 11). Spouses and guests are encouraged to attend. The Quality Inn is located at Douglas Ave., Hwy. 434 at I-4 exit.

CHAIRMANS CORNER

Engineers Week activities will be highlighted this month starting with the Section's IEEE Engineers Award Banquet on Saturday February 17, 1979 at the Quality Inn located at the intersection of I-4 and 434 in Longwood. Former Senator Lou Frey is scheduled to address the section following the Engineer of the Year nominations by the Society Chapters and the Section general membership. One of the nominees will be selected as Engineer-of-the-Year. I extend an



invitation to all Section members and their guests to attend this evening of civilities and fellowship starting with a 6:30 social. Tickets are available from Bill Rhoden, the Engineers Week Committee Chairman (phone 645-3444), or any of the Executive Committee members listed inside the back cover.

The following Friday the Florida Engineering Society's Engineering Week Banquet on February 23, 1979 will be held at the Mariott on Sand Lake Road. Three additional honors will be bestowed when the Organization of the Year, the Technician of the Year and the Engineer of the Year are selected. For tickets contact Ed Griffin the IEEE-FES Liaison Committee Chairman (phone 352-4018).

We have had a growth of 5.79% this past year with our November 30, 1978 membership reported to be 675 by IEEE headquarters. I have hopes of exceeding this growth level this coming year but I need your support and participation in our Section activities if we are to make our Section grow and be fruitful to our members. SUPPORT YOUR SECTION ACTIVITIES.

Our Section Officers have reached the half-way point in their elected terms and in accordance with the by-laws of the Section I have appointed a nominating committee to provide the slate of officers for the coming year. The Committee is chaired by Bill Rhoden the Jr. Past Chairman, with Bill Cram and Dave Flinchbaugh as members. If you have suggestions for this committee to consider, please let one of them know.

Nomination by petition requires the signatures of (15) fifteen or more valid section members plus the nominees signed statement of his/her willingness to serve if elected. This petition must be received by the nominating committee chairman before April 15, 1979.

Russ Theisen Orlando Section Chairman

MEETING NOTICE COMPUTER SOCIETY

DATE: February 17, 1979

TIME: 7:00 P.M.

PLACE: Orlando Public Library, Rosalind St., Orlando

SPEAKER: Kenneth J. Thurber

TOPIC: COMPUTER COMMUNICATION SYSTEMS

ABSTRACT:

This presentation will discuss how consideration of computer communication system can lead to two different models of distributed processors and networks. It then discusses how the tradeoffs involved in the design of circuit switches, message switches, and bus structures can be derived from the developed models.

BIOGRAPHY:

Senior Staff Scientist Advanced Hardware Development Department, Ph.D. E.E., Montana State University, 1969, Author of over forty papers on Computer Architecture, Author of several books on Computer Architecture.



Bill Rhoden

Manufacturers Representative

111 South Maitland Ave. Suite 202 P.O. Box 1475 Maitland, Fla. 32751

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MTT SOCIETY

MEETING NOTICE

DR. BARRY E. SPIELMAN Head, Solid State Circuits Section Microwave Technology Branch Naval Research Laboratories Washington, D. C., 20375

"MILLIMETER-WAVE INTEGRATED-CIRCUIT MEDIA"

Date:

Thursday, February 8, 1979

Time: 7:15 P.M.

Place:

Hewlett Packard Co., 6177 Lake Ellenor Dr., Orlando

Cocktails 5:30 P.M. at Gary's Duck Inn Restaurant

and Dinner: 3974 South Orange Blossom Trail

Abstract

There is considerable interest in investigating and exploiting new transmission lines for use in integrated circuits operating at higher microwave and millimeter-wave frequencies.

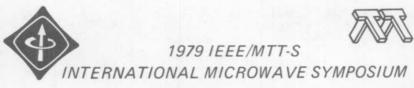
This talk will provide an overview and assessment of the principle transmission media which are being considered for integrated-circuit millimeter-wave applications. Some problems to be discussed are: high transmission line loss, dispersion and higher-order moding, insufficient availability of design data, factors affecting cost, and suitability of transmission lines for component implementation and circuit-integration at millimeter-wave frequencies.

DR. BARRY E. SPIELMAN received his B.S.E.E. degree from the Illinois Institute of Technology, Chicago, in 1964, the M.S.E.E. degree from the Pennsylvania State University, University Park, in 1967, and the Ph.D. degree from Syracuse University, Syracuse, N.Y., in 1971. Since 1971 he has been employed at the Naval Research Laboratory in Washington, D.C. From 1971 through 1977 he was a Research Electronics Engineer in the areas of microwave and millimeter-wave integrated circuits with such responsibilities as Head, Millimeter-Wave Techniques Section and Head, Microwave Modules Section. He is currently a Supervisory Electronics Engineer and Head, Solid-State Circuits Section in the Microwave Technology Branch.

Dr. Spielman is a member of the IEEE Administrative Committee for the national Microwave Theory and Techniques Society.

For further information, please contact your chapter officers.

Chairman: Dr. Deen Khandelwal 352-2339 Vice Chairman: Joseph Stever 352-4593 Secretary: Steven Gray 352-4560



Orlando, Florida April 30 - May 2, 1979

STEERING COMMITTEE R.E. Henning, Chairman College of Engineering University of South Florida Tampa, Florida 33620 (813) 974-2287

TECHNICAL PROGRAM J.L. Allen, Cheirman College of Engineering University of South Florida Tampa, Florida 33620 (813) 974-2581

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LOCAL ARRANGEMENTS, REGISTRATION AND HOSPITALITY J. Pullara, Chairman Martin-Marietta Aerospace P.O. Box 5837 Orlando, Florida 32805 (305) 352-4516

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EXHIBITS LIAISON H. Ellowitz Horizon House 610 Washington Street Dedham, Massachusetts 02026 (617) 326-8220

FIRST CALL FOR PAPERS

The 1979 IEEE MTT-S International Microwave Symposium will be held at the Sheraton-Twin Towers Hotel, Orlando, Florida. The symposium theme is "The World of Microwaves" emphasizing the ever-increasing role of microwaves in today's world.

Papers are solicited describing original work in the field of microwaves. Material submitted should not have been previously presented or published. Although any papers concerned with microwave techniques, devices, systems and applications will be considered, the following subject areas are regarded as particularly appropriate for this conference.

- Computer Aided Design and Measurement Techniques
- Microwave and Millimeter Wave Solid State Devices
- Microwave and Millimeter Wave Integrated Circuits
- Low Noise Techniques
- Microwave Passive Components and Networks
- Microwave Ferrite Devices
- High Power Techniques

- Radiometry and Remote Sensing Systems and Applications
- Satellite Communication/Microwave Systems
- Submillimeter Wave Techniques and Devices
- Integrated Optics, Fiber Optics and Optical Techniques
- Microwave Accoustics
- Microwave Field and Network Theory
- Microwaves in Medicine
- Technology Forecasting and New Ideas

Authors are requested to submit both a 35 word abstract and a 500-1000 word summary (up to 6 illustrations), clearly explaining their contribution, its originality, and its relative importance. Abstracts and summaries (5 copies) must be received on or before December 1, 1978 by:

Dr. James L. Allen TPC 1979 MTT-S Symposium Electrical and Electronic Systems University of South Florida Tampa, Florida 33620 USA

Notices of acceptance or rejection will be mailed to authors by January 20, 1979. At that time authors of accepted papers will receive forms and instructions for preparing material to be printed in the Symposium Digest.

The local arrangements committee could still use some assistance with the conference. To assist, contact Joe Pullara at 352-4516 (B) or 339-1327(R).

United States Activities Board

♦ THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Announces the 7th Annual Competition for

1979-1980

Congressional Fellowships

A CONGRESSIONAL INTERNSHIP FOR ELECTRICAL AND ELECTRONICS ENGINEERS AND ALLIED SCIENTISTS

PROGRAM: Electrical and Electronics Engineers and Physical Scientists are competitively selected to serve a one-year term on the personal staff of individual Representatives or Senators or on the professional staff of Congressional Committees. The program includes an orientation session with other Science-Engineering Fellows sponsored by the American Association for the Advancement of Science (AAAS).

PURPOSE: To make practical contributions to more effective use of scientific and technical knowledge in Government, to educate the scientific communities regarding the public policy process and to broaden the perspective of both the scientific and Governmental communities regarding the value of such science-government interaction.

CRITERIA: Fellows shall be selected based on technical competence, on ability to serve in a public environment, and on evidence of service to the Institute and the profession. Specifically excluded as selection criteria shall be age, sex, creed, race, ethnic background, and partisan political affiliations. However, the Fellow must be a U.S. citizen at the time of selection and must have been in the IEEE at Member grade or higher for at least four years. Additional criteria may be established by the selection committee.

AWARDS: IEEE plans to award three Congressional Fellowships for the 1979-1980 term. One Fellowship will be sponsored by the Electron Devices Society, and it is planned that one of these fellowships will be awarded to an applicant whose technical competence is in the field of electron devices.

APPLICATION: Further information and application forms can be obtained by calling W. Thomas Suttle (202) 785-0017 at the IEEE Washington, D.C. Office or by writing

Secretary, Congressional Fellows Program
The Institute of Electrical and Electronics Engineers
2029 K Street, N.W.
Washington, D.C. 20006

Applications must be postmarked no later than March 1., 1979, to be eligible for consideration.

NINE PEOPLE ELECTED T# THE IEEE BOARD OF DIRECTORS

New York, December --: Dr. Ivan A. Getting, President of the Institute of Electrical and Electronics Engineers, Inc. (IEEE), announces that the annual Assembly of the Institute has elected nine people to the 1979 Board of Directors. The election, held at the annual Assembly meeting on December 8, completed the selection of the 29-member Board for 1979. Earlier in November, announcement was made of the election, by direct membership vote, of Dr. Jerome J. Suran of the General Electric Company as 1979 President and of nine additional new members of the Board of Directors; ten members of the Board continue in office from 1978.

Those elected by the annual Assembly are:

<u>Vice President - Educational Activities</u>: Dr. Benjamin J. Leon, Professor of Electrical Engineering, Purdue University, West Lafayette, Indiana

<u>Vice President - Professional Activities:</u> Dr. Bruno O. Weinschel, Weinschel Engineering Company, Gaithersburg, Maryland

<u>Vicé President - Publication Activities</u>: Dr. Robert W. Lucky, Bell Laboratories, Murray Hill, New Jersey

<u>Vice President - Regional Activities</u>: Mr. Paul F. Carroll, Semiconductor Specialists, Inc., Elmhurst, Illinois

<u>Vice President - Technical Activities</u>: Dr. C. Lester Högan, Fairchild
Camera and Instrument Corporation, Mountain View, California

<u>Director - Standards Activities</u>: Mr. Joseph L. Koepfinger, Duquesne Light Company, Pittsburgh, Pennsylvania

<u>Director - Region 10</u>: Dr. S. Y. King, Head of the Department of Electrical Engineering, University of Hong Kong, Hong Kong

<u>Secretary - Treasurer</u>: Mr. Donald S. Brereton, General Electric Company, Schenectady, New York

<u>Executive Director</u>: Mr. Eric Herz, who will also assume the post of IEEE General Manager effective January 1, 1979, succeeding Dr. Richard M. Emberson.

The annual Assembly consists of those twenty members of the 1978 Board of Directors who were elected to office by voting members of IEEE. These include the President, the Junior and Senior Past Presidents, the Executive Vice President, nine Regional Directors, and seven Divisional Directors.

Through its leadership position in the promotion of technical and professional progress, IEEE has attracted a worldwide membership of more than 184,000 people whose specializations cover the entire electrical and electronics spectrum.

Student Activities News

SECTION MEMBERSHIP

HEEE Student members are automatically members of the IEEE Section in which they maintain their mailing address. The Student Activities Committee encourages you to participate in the Section activities. Through the experience, you will learn more about the "real world" of electrical engineering from the Section technical programs as well as through interaction with professional engineers.

Individuals who maintain mailing addresses outside the Section in which they live may formally change Section affiliation under the "Contiguous Section" clause of the IEEE Bylaws. By doing this, meeting notices and news-

ing address if it is outside of that Section.

For more information concerning Section programs and activities, contact your Branch Counselor or Section Chairman. To change your Section affiliation, or for information as to whom to contact in your Section, write to: IEEE Field Services Dept., 345 E. 47 St., New York, N.Y. 10017.

TIME TO RENEW

You should have received your 1979 dues invoice by the time you read this reminder. Last year, individuals representing more than 95 percent of Students up for renewal chose to continue their association with IEEE as Student members. By renewing now, you will insure that there is no break in your Spectrum subscription or in the many other benefits and services you receive from your Branch and Section, your Group/Society, and from IEEE.

Students who graduate in 1979 receive reduced rates on membership after graduation (i.e., in 1980) only if they are paid-up members in 1979. Recent-graduate dues are \$20 plus Regional assessment for the year following graduation as contrasted with \$45 plus Regional assessment for graduates who were not Student members at the time of graduation.

FORTESCUE FELLOWSHIP AVAILABLE

Funds have been made available for a Charles LeGeyt Fortescue Fellowship for 1979-80. The one-year \$7000 award will be made to a full-time postgraduate student in electrical engineering. Preference will be given to applicants about to begin their first year of graduate work. The recipient will be chosen on the basis of Graduate Record Examination scores, transcripts covering college courses, and the information in the applica-tion and letters of recommendation. The proposed work must be at an ention and letters of recommendation. gineering school of recognized standing in the U.S. or Canada, and the student must have received his or her bachelor's degree by the time work under the fellowship would begin. Applications should be filed on the proper forms so that they reach the Fellowship Committee by January 15 1979. Application forms are available at many colleges or may be obtained from Ms. Una B. Lennon, Staff Secretary of the Awards Board, IEEE Headquarters, 345 E. 47 St., New York, N.Y. 10017. The fellowship, admin-istered by IEEE, was established in 1939 as a memorial to Charles Fortescue in recognition of his valuable contributions to the power industry. It is funded by the Westinghouse Electric Corporation, with which Dr. Fortescue was associated throughout his professional career.

COUNSELOR RECOGNITION PROGRAM

An IEEE Student Activities Committee survey shows that the key to a successful IEEE Branch or Branch Chapter is an effective Counselor who is also a faculty member. But the Counselor's effectiveness is limited, the study has found, by the need to satisfy college administrators' emphasis on research and publishing. The study concludes that lack of a formal program in IEEE for recognizing Branch Counselors or Branch Chapter Advisors contributed to the problem. Accordingly, the study recommends a new awards program for Counselors to emphasize the importance of their role to the IEEE and to college administrators.

Each year one to ten Counselors will be recognized for personal efforts in the technical, educational, and professional development of Branch members. The students themselves will initiate the award process by recommending Counselors to their Section Chairmen. The Region Student Activities Chairman will select the nominees from names submitted by the Section Chairmen. Then an Institute-wide evaluating committee will select the winners as representative of the outstanding work of 450 Branch Counselors and Chapter Advisors around the world.

STUDENT ACTIVITIES COMMITTEE MEETS

The autumn meeting of the IEEE Student Activities Committee was held Oct. 20-21 in Montreal. Major policy decisions taken by the committee included: (1) Limiting the formation of Student Branches in the U.S. to schools with an accredited curriculum in engineering, engineering technology, or the related areas and sciences; (2) Establishing guidelines for the Counselor Recognition Program; and (3) Requiring all entrants in a Regional Student Paper Contest to be IEEE members prior to submission of the paper for judging. Other action included developing a Branch Leadership Training package and reviewing the procedures for Branch/Branch Chapter formation and dissolution.

The Student Activities Committee comprises Student Representatives from Regions 1-7, Branch Counselors serving as Regional Student Activities Chairmen, and industrial representatives appointed for their expertise in areas of SAC activities. The Chairman of SAC is appointed by the Vice President of Regional Activities and serves as a member of the IEEE Regional Activities Board.

STUDENT REPRESENTATIVES ELECTED

The Florida Central University Student Chapter has elected the following officers:

President Steve Fruit

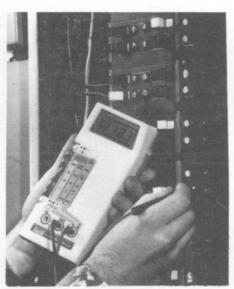
Vice President Helena Podlecki

Treasurer Carol Lynch

Secretary Tom Shuminsky

Picture Credit

THE WALLSTREET JOURNAL VIA SATELLITE - Two earth stations — each having a 33-foot diameter antenna and related equipment — were designed and installed — one in Chicopee, the other in Orlando — by American Satellite Corporation.



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BCS ASSOCIATES

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Page 11

1978/79 IEEE ORLANDO SECTION EXECUTIVE COMMITTEE **EXECUTIVE BOARD**

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		Business	Residence
Chairman	Russell E. Theisen	352-3810	671-4139
Vice Chairman	Dr. Ernest E. Erickson	275-2786	671-5026
Secretary	George F. McClure	352-3782	647-5092
Treasurer	Dr. Ben W. Patz	275-2816	855-3685
Society Chapter Rep.	John D. Gilbert	849-2151	859-5492

COMMITTEE CHAIRMEN

Jr. Past Chairman	William H. Rhoden	645-3444	671-3469
Sr. Past Chairman	Dr. Ed R. McCarter	275-2786	647-0134
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Program, Arrangements	Richard Kolsby	830-3479	645-2422
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Advertising	Bill Kownacki Ext 246	323-9250	365-5818
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Student Activities	Dr. Richard C. Harden	855-0881	855-5775
Student Chapter (FTU)	Steve Fruit		339-2601
Member-at-Large	Homer Wilson	646-8230	855-0934
Member-at-Large	Eugene V. Dashiell	859-2900	859-2497
Member-at-Large	Jim Gay	645-1510	644-7884
Member-at-Large	Fred Simons	275-2786	647-7316
Member-at-Large	John Tracy	352-4448	859-1214
monibol de Edigo	Bell Konnackei		365-5818

SOCIETY CHAPTER CHAIRMEN

AES			
COMM	Howard Griffin	351-9960	647-2720
COMP	Don E. Mendorf Ext 137	339-1600	831-2185
MTT.	Deen D. Khandelwal	352-2339	277-5959
PE&IA	Jim Lynes	824-4674	1-847-9453
VT	Mel Kelch	843-8484	859-1533

The ORLANDO SECTION NOTES are published monthly except July and August by the Orlando Section of IEEE. The NOTES are subsidized by advertising and inquiries regarding rates should be addressed to: William A. Kownacki, NCR Corp., E&M Orlando, 584 Lake Emma Rd., Lake Mary, FL 32746. News items should be forwarded to the Publications Chairman at the phone number above. This Executive Committee meets the first Tuesday of each month in the Alpha Room of the John Young Museum at 5:30 PM and is open to all IEEE members.

ORLANDO SECTION I.E.E.E. ORLANDO, FLORIDA

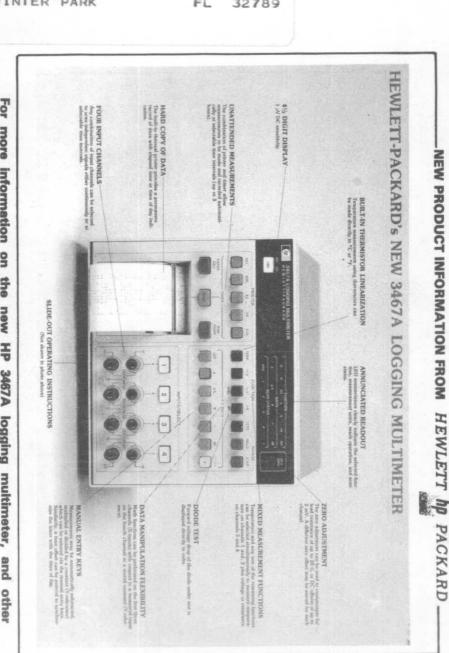
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NATIONAL ENGINEERS WEEK

ANNUAL BANQUET MARRIOTT INN FEB. 23, 1979

















ENGINEERS' CREED

As an engineer, I dedicate my professional knowledge and skill to the advancement and betterment of human welfare.

I PLEDGE:

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of man and the highest standards of professional conduct;

To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

IN HUMILITY AND WITH NEED FOR DIVINE GUIDANCE, I MAKE THIS PLEDGE.

















1979 ENGINEERS WEEK COMMITTEE CENTRAL FLORIDA AREA

GENERAL CHAIRMAN	Kermit L. Prime, Jr., P.E., FES
VICE CHAIRMAN AND	
SECRETARY	S.E. (Jim) Jammal, P.E., FES
TREASURER	
AWARDS	Dr. Chris Bauer, P.E., AIIE
STUDENT ACTIVITIES	Harry Brown, Jr., AIIE
BANQUET	
ARRANGEMENTS	S.E. (Jim) Jammal, P.E., FES
PROGRAM	J. Albert Roy, IES
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Wayne Austin, AIPE

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FES Ladies Auxiliary

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American Institute of Aeronautics and Astronautics

American Society of Mechanical Engineers

American Society for Quality Control

Society of Manufacturing Engineers

American Society of Certified Engineering Technicians

Florida Engineering Society

Institute of Electrical and Electronics Engineers

American Institute of Industrial Engineers

Society of Women Engineers

Society for the Advancement of Material and Process Engineering

American Society of Civil Engineers

American Society of Metals

American Society of Agricultural Engineers

American Institute of Plant Engineers

Florida Engineering Society Ladies Auxiliary

FES Student Chapter - UCF

1979 ENGINEERS WEEK BANQUET CENTRAL FLORIDA AREA CITRUS BALLROOM

SOCIAL HOUR	. 6:30 P.M.	- 7:30 P.M.
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INTRODUCTION/WELCOME	Paul T. Matthes, P.E.,
AND INVOCATION	President, Central
	Florida Chapter, FES
DINNER	7:30 P.M 9:00 P.M.
PROGRAM	9:00 P.M 10:30 P.M.
	J. Albert Roy, IES
	Program Chairman
SPEAKER	Harvey C. (Tom) Jones
	Director of
	Reedy Creek Utilities Company
STUDENT AWARDS	Harry Brown, Jr., AIIE and
	Gordon McClung, FESSC/UCF
	Student Representative
MAJOR AWARDS	Dr. Chris Bauer, P.E., AIIE
	Awards Chairman
DOOR PRIZES	Mrs. Donna Haley, FESLA
ENTERTAINMENT	10:30 P.M 11:15 P.M.

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FLORIDA ENGINEERING SOCIETY
AFFILIATED WITH
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
and
PARTICIPATING TECHNICAL ENGINEERING SOCIETIES

CANDIDATES FOR ENGINEER OF THE YEAR

Blair H. Schlender American Institute of Industrial Engineers

M. E. Dawkins, P.E. Florida Engineering Society

Ralph Brown American Society of Certified Engineering Technicians

William Bellisle, P.E. American Society of Civil Engineers

Charles E. Green American Society of Mechanical Engineers

> Russel E. Theisen Institute of Electrical and Electronics Engineers

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SEVENTH ANNUAL ENGINEERS FAIR ENGINEERING BUILDING UNIVERSITY OF CENTRAL FLORIDA

The Engineers Fair is held each year by the UCF-student chapter of the Florida Engineering Society in cooperation with the other technical societies. This year, the Fair was open to the public from 9 A.M. to 4 P.M. on lay, February 16, and 10 A.M. to 3 P.M. on Saturday, February 17.

The Fair Committee would like to thank the following for their support/assistance:

Martin Marietta for donation of prizes
Dean's Office, College of Engineering, UCF
Mr. Joseph Haibach, R&D Lab, College of Engineering, UCF
Engineers Week Committee
PDQ Instant Print

Fair Committee

Fair Con	imittee
Faculty Advisor	Dr. James Taylor, P.E.
Fair Committee Chairman	Gordon McClung, FES
Publicity Chairman	Helena Podlecki, IEEE
Display Chairman	Bill Reidy, ASCE
Industrial Displays	Ralph Bemos, AIIE
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	Eta Kappa Nu
Program Chairman	Linda Dance, Pi Tau Sigma
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Information Table Chairman	
Contest Chairman	Ken Morgan, FES
	Reginald Spawn, NSPE
Student Liaison to Engineers Week Committee	
Science & Technology Writer/	

Editor...... Jim Ball, Sentinel Star

THE WHITE HOUSE WASHINGTON

National Engineers Week February 18 - 24, 1979

It is a pleasure for me to greet and commend the professional engineers who contribute so significantly to our Nation's development.

In each stage of history the work of engineers has reflected the needs, aspirations and visions of the people of that era. The aquaducts, roads and the people of the ancient world; the castles and monuments of the Middle Ages; the machines, cathedrals of the Middle Ages; the machines, cathedrals of railroads of the first industrial factories and railroads of the first industrial revolution; the automobile, electric power and the revolution; the automobile, electric power and the current marvels of modern chemistry, electronics and our aerospace age: all these comprise a vast and our aerospace age: all these comprise of panorama of human progress covering thousands of years.

Today's engineers continue their contributions to people everywhere as they help us extend life, its benefits and its enjoyment. In these efforts they face unprecedented challenges as they seek they face unprecedented challenges as they seek to improve our efficiency in the use of energy to improve our efficiency in the use of energy and material resources, to reduce adverse environmental impact and to increase innovation which stimulates new economic growth.

As we celebrate National Engineers Week, we look more than ever with pride, appreciation, hope and confidence to all members of this vital profession.



ORLANDO SECTION NOTES



IEEE COMPUTER SOCIETY

FLORIDA ECLECTIC* 79

Third Annual Mini/Micro Computer Symposium and Fair See Page 4

CHAIRMAN'S CORNER

The Orlando Section is co-sponsoring the third annual mini/micro-symposium, March 21--23, 1979, at the Florida Institute of Technology in Melbourne, Florida. The excellent line-up of speakers and exhibitors make this a "must" item on your calendar. Support Your Section.



The nominating committee appointed to select the slate of officers for the Orlando Section for the year 1979--1980 has submitted the following list of candidates:

Chairman	Dr. Ernest E. Erickson
Vice-Chairman	George F. McClure
Secretary	Dr. Ben W. Patz
Treasurer	John D. Gilbert

The committee is composed of Chairman William H. Rhoden, Dr. David Flinchbaugh, and Bill Cram. The election of the Orlando Section officers will take place in May. Nominations from the membership may be made by petition. The petition requires the signatures of 15 or more valid section members plus the nominee's signed statement of his/her willingness to serve if elected. This petition must be received by the nominating committee, Chairman Bill Rhoden, before April 15, 1979.

The Section membership stands at 679 on December 31, 1978.

(Grade Number	eı
	Fellows	
	Senior Members97	
	Members	
	Students 53	
Γot	tal 679	

There are still 52 of the above who will be dropped from our membership rolls unless they pay their dues. Remember, on March 1, 1979, all unpaid members will be dropped from IEEE. Make sure that you are not one of them.

Russ Theisen Orlando Section Chairman

NORLAND'S

gives you only one thing other digital scopes don't ..

THE ANSWER







 DISPLAY — High intensity interactive CRT displays ac-quired or processed data, keyboard instructions, and instrument operating parameters

e TIME DOMAIN
PROCESSING — Pre-p
grammed keys convert

engineering units, integrate, differentiate, +, -, *, +, perform statistical investigations, measure RMS, Rise-time, 1/ΔT, etc.

. FREQUENCY DOMAIN PROCESSING — Pre-pro-grammed keys calculate FFT, IFT, PSD, Cross Spectrum, complex multiplication, com-plex division, etc.













associates, FLORIDA

NORLAND 3001 BRINGS PROCESSING DIGITAL OSCILLOSCOPE BELOW \$10,000

Norland Corporation is proud to announce its newly developed 3001 WAVEFORM ANALYZER.

With its release, Norland will have successfully created the first processing digital oscilloscope for under \$10,000.

The NORLAND 3001, using an Intel 8085 microprocessor, has blended the generally independent functions of multichannel data acquisition, time domain, frequency domain, and statistical waveform processing, and control of storage, print, and plot peripherals into a single system requiring no special interfacing or programming knowledge to operate.

A family of acquisition modules will provide for system configurations capable of acquiring from one to four independent signals simultaneously at sample rates to two microseconds per point and resolution levels to 12 bits.

Once acquired, a high resolution CRT and a detachable keyboard allows the operator to instantly process and interact with his data. Hand calculator-type keystroke instructions allow the operator to convert from volts to the appropriate engineering units, compute velocity or displacement from acceleration, compute volume as a function of crank angle, analyze the frequency composition of a signal, inspect the transfer function of a system, investigate various statistical relationships, and much more.

The NORLAND 3001 has been designed to function as an analysis system. For this reason, Norland has given the 3001 resident capability to communicate with peripherals designed to print, plot, and store resultant information.

As configured, the NORLAND 3001 represents a state-of-the-art digital oscilloscope which provides its users with results instead of merely a display and does it at a price which merits serious consideration.

Formal descriptive information will soon be available. If you would like to receive a set, simply return the attached reply card. For additional information, feel free to call 414/563-8456.

IEEE COMPUTER SOCIETY

FLORIDA ECLECTIC* 79

Third Annual Mini/Micro Computer Symposium and Fair Call for Abstracts and Session Sponsors

This is the first annual conference sponsored by the Florida Council of IEEE (FCIEEE). It is designed to promote the interest of Florida Electrical Engineers, and the interests of the Electro-Technology Industries in Florida.

WHERE: Florida Institute of Technology, Melbourne, FL.

WHEN: 21,22, & 23 March 1979

21 March: Microcomputer Tutorial

22 March: What's New in Computer Hardware and Software

23 March: Computer and Microprocessor Applications

This conference will host exhibitors of the latest developments related to Mini/Micro Computer, and Micro-Processor, applications. Computer experts will be presenting their ideas and explaining the latest applications and equipment.

COMPUTER SOCIETY OFFICERS

Chairman	Don Mendorf	Stromberg Carlson	339-1600 x	x137
Vice Chmn. Pgms.	Joe Massett	Martin Marietta	352-2208	
Vice Chmn. Memb.	Mannie Connell	Reflectone	671-0470	
Secretary	Gerry White	NTC	646-4201	

	MASTER SCHEDULE
	Wednesday, March 21
8:30	Registration
	Gleason Auditorium
9:00 - 12:00	Tutorial 2
	"Introduction to Microcomputers"
	(via M6800)
	Tutorial 3
	"Application Software Development and
	Hardware Debugging for Microcomputer Systems"
12:00 - 1:00	Lunch and Exhibits
1:00 - 3:00	Tutorial 2
	Continued
	Tutorial 3
	Continued
	Tutorial 1
	"Microprocessors - for Technical Managers and

Digital Systems Engineers

	Thursday, March 22
8:00	Registration
	Gleason Auditorium
8:45 - 9:00	Welcome
	Ron Wojtasinski, Conference Chairman
	Gleason Auditorium
9:00 - 9:30	Keynote Speaker
	Dr. Oscar Garcia, USF
0.90 0.45	Gleason Auditorium
9:30 - 9:45 9:45 - 11:45	Coffee Break
9:40 - 11:40	Session IA
	Computers in Energy Management
	All Purpose Room
	Session IB
	Use of Minicomputers and Microcomputers in Communication
11:45 - 1:00	Gleason Auditorium Lunch and Exhibits
1:00 - 2:45	Session IIA
1.00 - 2.40	Application Software for Microcomputers
	All Purpose Room
	Session IIB
	Military Applications of Mini/Micro Computers I Gleason Auditorium
2:45 - 3:00	Coffee Break
3:00 - 5:00	Session IIIA
0.00	Military Applications of Mini/Micro Computers II
	Gleason Auditorium
	Session IIIB
	Mini/Micro Computers in Hybrid Systems
	All Purpose Room
	Friday, March 23
8:00 - 9:00	Exhibits
9:00 - 11:00	Session IVA
	Micros and Minis in Testing and Control Applications
	Gleason Auditorium
	Session IVB
	Military Applications of Mini/Micro Computers III
	All Purpose Room
11:00 - 12:00	AGEIS Uniform Government Language
12:00 - 1:00	Lunch and Exhibits
1:00 - 3:00	Session VA
	Teaching Computers
	Gleason Auditorium
	Session VB
	Real Problems and Applications

All Purpose Room

FLORIDA ECLECTIC* 79

SESSION IA

COMPUTERS IN ENERGY MANAGEMENT

Chairman: Dr. Y. A. Hosni, UCF

- Computer Based Energy Management Systems Principles and Pitfalls dr. K. W. Lindenberg, Appli-Mation, Inc.
- 2) Computer Based Energy Management Systems in State Buildings in Florida Dr. R. D. Doering, UCF Dr. Y. A. Hosni, UCF
- Microcomputers in Solar Assisted Heat Pump Controls Carl Hallberg, Solar Energy Components, Inc.

SESSION IB

USE OF MINICOMPUTERS AND MICROCOMPUTERS IN COMMUNICATION Chairman: Don Mendorf, Stromberg Carlson

- Microprocessors in Telephone Instruments
 Don Mendorf, Stromberg Carlson
- 2) Microprocessor Port Control Karem Narula, Stromberg Carlson
- Multiprocessor Architectures for Message Processing J. N. Beauchamp, E - Systems

R. G. Field, E - Systems

- 4) Applications and Limitations of Computer in Telemetry Ground Stations William Waggoner, Weston - Sangamo
- Convolutional Processing for Image Enhancement Dr. W. Taylor, Harris Corp.

SESSION IIA

APPLICATION SOFTWARE FOR MICROCOMPUTERS

Chairman: Stan Padgett, Harris Corp.

- Public Domain Software for Project Development J. R. Coleman, Harris Corp.
- OZ-An 8080 Real Time Executive F. C. Anders, Harris Corp.
- Special Considerations in Microcomputer Based Business Software Dr. Vincent C. Jones, Consultant
- Microprocessor Software Development Some Skeletons in the Closet D. Digby, Martin Marietta R. A. McNamara, Martin Marietta
- 5) A Firmware Driven Monitor and Control System D. Barnes, Harris Corp.

SESSION IIB

MILITARY APPLICATIONS OF MINI/MICRO COMPUTERS I

Chairman: Dr. J. W. Jones, Jr., Armament Development and Test Center, Eglin AFB

- GBV 15 Digital Autopilot and Test Set Capt. J. Peavy, Armament Development and Test Center, Eglin AFB
- Tactical Weapons and the Microprocessor
 1Lt. G. Beasley, Air Force Armament Lab, Eglin AFB
- Microprocessor Applications for the F-16 Stores Management Subsystem H. C. Lynn, General Dynamics Dr. W. B. Sconyers, General Dynamics
- Application of Microprocessors to Army Missiles
 C. S. Wasson, Army Missile R & D Command, Eglin AFB
- 5) A High Speed Microprocessor Controller for Frequency-Hopped Null-Steered Phased Array Antenna

M. S. Zahula, Harris Corp.

D. C. Campbell, Harris Corp.

S. S. Wilson, Harris Corp.

SESSION III A

MILITARY APPLICATIONS OF MINI/MICRO COMPUTERS II Chairman: Dr. G. White, NTEC

1) Bit Slice Microprocessor Applications for Autopilot Navigation and and Target Acquisition

J. Massett, Martin Marietta

- Microprocessors and Minicomputers in Training Devices G. Kirby, NTEC
- Software Development for Microcomputers Dr. G. White, NTEC
- Microprocessor Control of an Infantry Weapons Training Device Dr. H. C. Towle, UCF

R. J. Riordan, UCF

A. H. Marshall, NTEC

B. F. Shaw, NTEC

SESSION III B

MINI-MICRO COMPUTERS IN HYBRID SYSTEMS

Chairman: Dr. G. Sauer, Martin Marietta

- The AD-10, A Multiple Processor Digital Computer Designed for the Real Time Solution of Differential Equations
 Chandler, Applied Dynamics International
- A. Microprocessor Based Smart Terminal for Managerial Applications J. W. Fikes, Martin Marietta

- Application of the Interdata 8/23 in a Hybrid Computer System E. W. Cordan, Martin Marietta
- 4) Survey of Current Techniques to Determine the Processing Power of Various Microprocessors

J. D. Rochester, Harris Corp.

SESSION IV A

MICROS AND MINIS IN TESTING AND CONTROL APPLICATIONS Chairman: Dr. H. Glass, USF

- Microprocessors in the Design of Test Systems in the Management View R. A. Worden, Honeywell
- Interfacing a Minicomputer to a Sampling and Measurement System N. L. White, Honeywell William Collins, Honeywell
- A Computer Controlled Large Scale Testing Facility for Measuring the R-Value of Building Material Dr. S. J. Garrett, USF
- 4) The Use of FORTH, a New Language in the Design of Test Systems Dr. H. Glass, USF

SESSION IVB

MILITARY APPLICATIONS OF MINI/MICRO COMPUTERS III Chairman: Dr. R. S. Strain, Harris Corp.

- New Algorithm for Bus Alocation using MIL-STD-1553B J. B. Malnar, Harris Corp.
- Fiber Optic Data Bus and Receiver R. R. Giri, Harris Corp.
- 3) A High Speed Microprocessor Controller for Frequency-Hopped,

Null-Steered, Phased Array Antennas

M. S. Zahula, Harris Corp.

D. Campbell, Harris Corp.

S. Wilson, Harris Corp.

 Distributed Microprocessing in Image Processing Chris Casso, Harris Corp.

SESSION VA

TEACHING COMPUTERS

Chairman: Dr. R. Walker, UCF

1) Teaching Microprocessors and Microcomputers at Florida Institute of Technology

Dr. J. Hadjilogiou, FIT

- The Computer Program Within the College of Engineering at the University of Central Florida Dr. B. W. Patz, UCF
- Design for a Computer-Assisted Video Disc Educational System Dr. N. McDonald, USF
- 4) Microprocessors Software Development Some Skeletons in the Closet D. Digby, Martin Marietta
 - R. McNamara, Martin Marietta

SESSION VB

REAL PROBLEMS AND APPLICATION

Chairman: Dr. D. M. Bell

- 1) Computer Power Requirements
 - J. V. Oritz, Syska and Hennessy, Inc.
- 2) Ham Two Meter Telephone Data Logging Exchange Control F. Byrne, KSC
- An Approach to an Encryption Machine Using 8080 Software W. Yeisley, Harris Corp.
- Performance Monitoring of a Multiprocessor Network R. A. Adams, Harris Corp.
- 5) Interactive Memory Simulator for Bit-Slice Microprocessor Development D. F. Gluntz, Harris Corp.

POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

The PE & IA Society is sponsoring a technical meeting and tour:

DATE: Tuesday, March 13, 1979

TIME: 7:30 P.M.

PLACE: Switchgear Division of Gould-Brown Boveri, manufacturer of

ITE equipment

ADDRESS: 201 Hickman Drive, Sanford, Florida

INFORMATION: Jeff Dick (305) 352-3326

DIRECTIONS: When going north on I-4, exit to SR 46, right turn, turn left

behind Days Inn. Find yellow building inside I-4 Industrial Park.

STUDENT CHAPTER

The Student Chapter is sponsoring a spring agenda planning meeting at EN 203 in Electrical Eng. Bldg. on March 8 at noon on UCF campus. Those with ideas for speakers can call Steve Fruit at 275-2816.



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occiety chapter hep.	GOTHY D. GILDOTT	010 2101	000 0 100
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ORLANDO SECTION I.E.E.E. ORLANDO, FLORIDA

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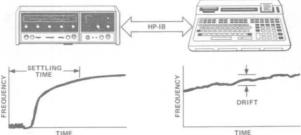
Organization

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APPLICATION NOTE 187-6

8620 SWEEP OSCILLATORS

The Frequency Performance of the 8620C Sweep Oscillator **Under Remote Programming**



The 8620C Sweep Oscillator in remote operation has distinct differences in performance over its manual use. For example, in bypassing the front panel controls and dial scale, the associated frequency errors are eliminated. However, data sheets and operating manuals typically specify manual performance only. Hence, remote operation characterization is necessary to optimize the selection of sweeper plug-ins for semi/full automatic test applications

The purpose of this application note is to document the performance of the 86200 series plug-ins in remote programming operation. Techniques for increasing precision, reducing errors, and source calibra-tion are described for hardware and software implementation. The intent is to provide the system designer with an enhanced measurement solution through plug-in performance optimization.

A)PPILICATION 187-6





For more information, contact your local HEWLETT PACKARD office at 859-2900

Tutorials Wednesday, March 21 Thursday, March 22

Conference Sessions

"Microprocessors - for Technical Managers and Digital System Engineers' Dr. Ray Glenn - Harris GCSD Mr. Stan Padgett - Harris GCSD

The goal of this tutorial is to acquaint system designers with guidelines so that they can better specify, cost, and control microprocessor-based products. The material covered includes current processor comparisons and projections, development tools, personnel skills, system design, cost control, and microprocessor network problems.

"Introduction to Microcomputers" (Via M6800)

Dr. Klaus Lindenberg, Associate Professor, UCF

- Microcomputer Role and Scope (Micro, Mini, Maxi)
- Number Systems (Binary, Octal, Hex)
- Memory Hardware (RAM, ROM, PROM)
- MPU Hardware
- Addressing Modes
- Instruction Set
- Interface Hardware
- Example Programs with Demonstrations
- System Configurations
- "Application Software Development and Hardware 3 Debugging for Microcomputer Systems" Dr. Benjamin Patz, Associate Professor, UCF
 - Principles, Procedures, and Alternatives for Efficient Software Development of Computer Interface Applications
 - Principles, Procedures and Alternatives for Creating Working Computer Controlled Equipment

Computers in Energy Management A Chairman: Dr. Y. A. Hosni, UCF

- Computer Based Energy Management Systems — Principles and Pitfalls Dr. K. W. Lindenberg, Appli-Mation, Inc.
- Computer Based Energy Management Systems in State Buildings in Florida Dr. R. D. Doering, UCF Dr. Y. A. Hosni, UCF
- Microcomputers in Solar Assisted Heat Pump Controls Carl Hallberg, Solar Energy Components, Inc.
- B Use of Minicomputers and Microcomputers in Communication

Chairman: Don Mendorf, Stromberg Carlson

- Microprocessors in Telephone Instruments Don Mendorf, Stromberg Carlson
- Microprocessor Port Control Karem Narula, Stromberg Carlson
- Multiprocessor Architectures for Message Processina
 - J. N. Beauchamp, E-Systems R. G.Field, E-Systems
- Applications and Limitations of Computer in Telemetry Ground Stations

William Waggoner, Weston — Sangamo

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Application Software for Microcomputers Chairman: Stan Padgett, Harris Corp.

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- Special Considerations in Microcomputer Based Business Software

Dr. Vincent C. Jones, Consultant

- A Firmware Driven Monitor and Control System
 - D. Barnes, Harris Corp.

IIB Military Applications of Mini/Micro Computers I

Chairman: Dr. J. W. Jones, Jr., Armament Development and Test Center, Eglin AFB

 GBV-15 Digital Autopilot and Test Set Capt. J. Peavy, Armament Development and Test Center, Eglin AFB

 Tactical Weapons and the Microprocessor 1st Lt. G. Beasley, Air Force Armament Lab, Eglin AFB

 Microprocessor Applications for the F-16 Stores Management Subsystem
 H. C. Lynn, General Dynamics

Dr. W. B. Sconyers, General Dynamics

• Application of Microprocessors to Army

Missiles

C. S. Wasson, Army Missile R&D Comman

C. S. Wasson, Army Missile R&D Command, Eglin AFB

IIIA

Military Applications of Mini/Micro Computers II

Chairman: Dr. G. White, Naval Training Equipment Center (NTEC)

 Bit Slice Microprocessor Applications for Autopilot Navigation and Target Acquisition

J. Massett, Martin Marietta

 Microprocessors and Minicomputers in Training Devices
 G. Kirby, NTEC

 Software Development for Microcomputers Dr. G. White, NTEC

 Microprocessor Control of an Infantry Weapons Training Device

Dr. H. C. Towle, UCF T. J. Riordan, UCF A. H. Marshall, NTEC B. F. Shaw, NTEC

IIIB Mini-Micro Computers in Hybrid Systems Chairman: Dr. G. Sauer, Martin Marietta

 The AD-10, A Multiple Processor Digital Computer Designed for the Real Time Solution of Differential Equations

D. Chandler, Applied Dynamics International

 A Microprocessor Based Smart Terminal for Managerial Applications

J. W. Fikes, Martin Marietta

 Application of the Interdata 8/32 in a Hybrid Computer System

E. W. Cordan, Martin Marietta

 Survey of Current Techniques to Determine the Processing Power of Various Microprocessors

J. D. Rochester, Harris Corp.

Friday, March 23

IVA

Micros and Minis in Testing and Control Applications

Chairman: Dr. H. Glass, USF

 Microprocessors in the Design of Test Systems in the Management View R. A. Worden, Honeywell

 Interfacing a Minicomputer to a Sampling and Measurement System

N. L. White, Honeywell William Collins, Honeywell

 A Computer Controlled Large Scale Testing Facility for Measuring the R-Value of Building Material

Dr. S. J. Garrett, USF

 The Use of FORTH, a New Language in the Design of Test Systems
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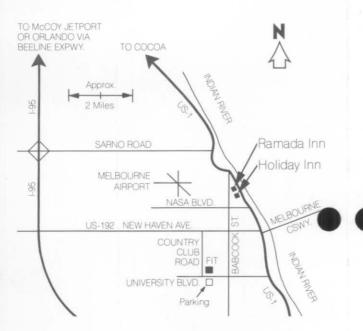
Who should attend:

Electrical Engineers, Data Processing people, System Engineers, Managers, Teachers, Programmers, Computer Scientists, Industrial Engineers, Computer Hobbyists, Students, Small-Business men and anyone interested in this exciting new field.

Accommodations:

For reservations, call the Holiday Inn (East) or the Ramada Inn, and mention that you will be attending the sessions. Bus transportation will be provided to Florida Institute of Technology. Your first step should be registration, in the lobby of Gleason Auditorium.

Holiday Inn of Melbourne (East) 440 S. Harbour City Blvd. (US 1) Melbourne, Florida 32901 Local Phone: (305) 723-3661	Single Double	\$25.00 \$34.00
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Chairman's Message:

The Florida Council of IEEE Sections welcomes you to the 1st Annual ECLECTIC Conference, an annual event that promises to provide the latest applications in current electrical-electronic engineering technology. This conference starts a tradition in Florida of presenting many facets of electronic and electrical engineering and selecting what appears to be the best in various methods and styles of innovation for the ECLECTIC engineer. The cooperation of engineering professionals, universities, government and the electronic industries has demonstrated that they are complementary, and provide a creative and productive association of interests. This year's conference presents systems' applications of mini-micro processor technology.

R. J. Wojtasinski P.E. Chairman FCIEFE

For further information contact:

Ron Wojtasinski (KSC) Ben Patz (UCF) Ray Glenn (HARRIS) Andy Revay (FIT) John Larkin (WA Brown)

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Military Applications of Mini/Micro Computers III

Chairman: Dr. R. S. Strain, Harris Corp.

 New Algorithm for Bus Allocation Using MIL-STD-1553B

J. B. Malnar, Harris Corp.

- Fiber Optic Data Bus and Receiver R. R. Giri, Harris Corp.
- A High Speed Microprocessor Controller for Frequency-Hopped, Null-Steered, Phased Array Antennas

M. S. Zakula, Harris Corp.

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S. Wilson, Harris Corp.

 Distributed Microprocessing in Image Processing

Chris Casso, Harris Corp.



Teaching Computers

Chairman: Dr. R. Walker, UCF

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 The Computer Program Within the College of Engineering at the University of Central Florida

Dr. B. W. Patz, UCF

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 Microprocessor Software Development — Some Skeletons in the Closet

D. Digby, Martin Marietta R. McNamara, Martin Marietta

VB B

Real Problems and Application

Chairman: Dr. D. M. Bell, Harris Corp.

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J. V. Oritz, Syska and Hennessy, Inc.

 Ham Two Meter Telephone Data Logging Exchange Control

F. Byrne, KSC

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W. Yeisley, Harris Corp.

 Performance Monitoring of a Multiprocessor Network

R. A. Adams, Harris Corp.

 Interactive Memory Simulator for Bit-Slice Microprocessor Development

D. F. Gluntz, Harris Corp.

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Title — Organization — Address — Phone — Total enclosed	Member IEEE Nonmember Student
	Tutorials, Ma 1 Afternoon \$20 \$30 \$15
	Tutorials, March 21 (Check one.) 1
	<pre>< one.) 3 3 Full Day □ \$30 □ \$45 □ \$20</pre>
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schedule block, complete the address information, separate and return

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and Third Annual Mini/Micro Symposium and Fair

March 21-23 1979

Florida Institute of Technology Melbourne, Florida

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*Eclectic - selecting what appears to be best in various methods or styles.

Master Schedule:

Wednesday, March 21	Thursday, March 22	Friday, March 23	
	8:00 Registration Gleason Auditorium	8:00 - 9:00 Exhibits	
8:30 Registration Gleason Auditorium	8:45 - 9:00 Welcome Ron Wojtasinski, Conference Chairman Gleason Auditorium		
9:00 - 12:00 Tutorial 2 "Introduction to Microcomputers" (via M6800) Tutorial 3	9:00 - 9:30 Keynote Speaker Dr. Oscar Garcia, USF Gleason Auditorium 9:30 - 9:45 Coffee Break	9:00 - 11:00 Session IVA Micros and Minis in Testing and Contro Applications Gleason Auditorium	
"Application Software Development and Hardware Debugging for Microcomputer Systems"	9:45 - 11:45 Session IA Computers in Energy Management All-Purpose Room	Session IVB Military Applications of Mini/Micro Computers III AII-Purpose Room	
	Session IB Use of Minicomputers and Microcomputers in Communication Gleason Auditorium 11:45 - 1:00 Lunch and Exhibits	11:00 - 1:00 Lunch and Exhibits	
12:00 - 1:00 Lunch and Exhibits			
1:00 - 3:00 Tutorial 1 "Microprocessors — for Technical Managers and Digital Systems Engineers" Tutorial 2 Continued Tutorial 3 Continued	1:00 - 2:45 Session IIA Application Software for Microcomputers All-Purpose Room Session IIB Military Applications of Mini/Micro Computers I Gleason Auditorium 2:45 - 3:00 Coffee Break	1:00 - 3:00 Session VA Teaching Computers Gleason Auditorium Session VB Real Problems and Applications All-Purpose Room	
Special Event: Micro-Mouse Demonstration by the UCF IEEE student group.	3:00 - 5:00 Session IIIA Military Applications of Mini/Micro Computer Gleason Au Session IIIB Mini/Micro Computers in Hybrid Systems All-Purpose Room		

VOLUME XIII NUMBER 8 APRIL, 1979



ORLANDO SECTION NOTES



IEEE AWARDS BANQUET

Doug Barnes, Nancy Barnes, Ann Theisen, Russ Theisen

PUBLISHED BY ORLANDO SECTION
INSTITUTE OF
ELECTRICAL AND ELECTRONICS ENGINEERS

CHAIRMANS CORNER

Congratulations are in order for those receiving honors at the annual Awards Night Dinner which includes the following people:



NOMINEE NOMNATING GROUP Jim Lyons P.E. & I.A. (Engineer of the Year) Jim Hart Student Chapter (Senior) Steve Chapman Student Chapter (Undergraduate) Dr. Sedki Riad Student Chapter (Advisor) Bill Rhoden Section (Past Chairmans Award) George Wade Brown * Communications Society (Eng. of the Year) Russell Theisen ** Computer Society (Eng. of the Year)

All of the candidates were highly qualified and all deserved the recognition they received.

I wish to acknowledge that Terry McSweeny of IEEE received the Technician of the Year Award at the Florida Engineering Society's Awards Banquet.

* Awarded posthumously

** Winner of the ENGINEER OF THE YEAR Award and nominee of the IEEE for the Florida Engineering Society's ENGINEER OF THE YEAR Award.

IEEE has announced its candidates for the top offices in 1980 and there are two petition candidates running for the office of president.

President IEEE Office held

Burkhard H. Schneider IEEE nominee Region 4 Director
Irwin Freest petition candidate perennial candidate
Dr. Leo Young petition candidate Executive Vice President

Vice President - Executive

Dr. C. Lester Hogan IEEE nominee TAB Chairman

The elections will take place in the Fall of 1979.

Russ Theisen Chairman Orlando Section



Dr. Bruce Mathews presenting award to Russell E. Theisen as Engineer of the Year 1979



Bill Rhoden

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Russ Theisen (Chairman) thanking Doug Barns (Speaker) Engineers Awards Banquet



L Jim Hart C Helena Podlecki R Stephen J. Chapman



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CALL F

1979 INTERNATIONAL CONFERED Sponsored by IEEE System

> Denver Denve October

The main theme of the 1979 Conference is on modeling and apment, Economics, Technology, Biocybernetics, Pattern Recognizations topics which are of interest to the Systems, Man and C March 15, 1979. Identify one author as correspondent for the acceptance by April 1, 1979. The final typed manuscript will be Symposium Directors.

SOCIETAL SYSTEMS, METHODOLOGY AND APPLICATIONS

Symposium Director:

Professor Andrew P. Sage Associate Dean School of Engineering University of Virginia Charlottesville, VA 22901 (804) 924-3050 Systems Methodology and International Cooperation in high technologies - International Technology Transfer - Systems Methodology and Applications in Education, Space, Telecommunications, Government, Transportation, Land Use, Ecology, Social and Legal Systems.

NATIONAL AND GLOBAL SYSTEMS OF ECONOMICS, ENERGY AND ENVIRONMENT

Symposium Director:

Dr. A. Meer Applications Systems Analysis Office Applications Directorate Goodard Space Flight Center Green Belt, MD 20771 (301) 982-2498 Economic Modeling of National and International Systems - Input/Output Models, Econometrics, System Dynamics, Mathematical Programming - Modeling of Inflation, Growth and Employment - Systems Applications in Energy R&D - Systems Analysis and International Fuel Cycles - Alternative Energy Systems - World Models of Energy and Environment.

BIOMEDICAL SYSTEMS AND BIOCYBERNETICS

Symposium Director:

Dr. E. J. Sondik National Heart, Lung and Blood Institute Building 31, Room 5A 27 Bethesda, MD 20014 (301) 496-6331 Artificial Organ Systems, Machine-Assisted Diagnosis, Automated EKG Processing, Decision Analysis in Medicine, Health Care Delivery Systems, Image Reconstruction, Artificial Intelligence in Medicine, Biofeedback and Neural Signal Processing, Pharmcodynamics, Physiological Regulation.

MATERIAL TO BE INCLUDED IN THE CALL FOR PAPERS: TRAVEL:

Denver may be reached via many airlines to the Stapleton Airport. Limo Service is available directly to the Hilton.

All sessions will be conducted at the Hilton.

REGISTRATION:

For those who wish to register in advance, a registration form will be available in the program.

All attendees are required to register.

Registration fee on or before September 15 will be \$65.00.

Registration fee after September 15 will be \$75.00.

Student registration will be \$10.00 (open only to students with official ID card.)

One-day sessions may be attended for a cost of \$37.50.

PAPERS

E ON CYBERNETICS AND SOCIETY
Man and Cybernetics Society
ton Hotel
Colorado
3, 10, 1979

ations of World Systems in areas relating to Energy, Environm, Man-Machine and System Science. Papers are invited on renetics Society. Proposed titles and short abstracts are due by er. The authors will be notified of the decision concerning the by July 1, 1979. Please send abstracts of papers to appropriate

PATTERN RECOGNITION AND ARTIFICIAL INTELLIGENCE

Symposium Director:

Professor Laveen N. Kanal 302 Notley Court Silver Spring, MD 20904 (301) 927-3223 Pattern Recognition and Analysis, Image Analysis, Artificial Intelligence, Intelligent System Design, Modeling of Cognitive Functions, Robotics and Industrial Applications, Speech Understanding, Fuzzy Set Theory and Applications, Adaptive Systems.

SYSTEMS SCIENCE, METHODOLOGY AND ENGINEERING

Symposium Director:

Professor Robert W. House Box 6188, Station B Vanderbilt University Nashville, TN 27335 (615) 322-4733 Technology Forecasting and Assessment - Applications of Control Theory to Systems Engineering - Recent Advances in Optimization Theory and Applications - Interpretive Structural Modeling - Decision Analysis.

MAN-MACHINE SYSTEMS

Symposium Director:

Professor Thomas B. Sheridan 1-110 MIT Cambridge, MA 02139 (617) 243-2228 Man-Machine Interaction, Man-Computer Interfaces, Computer-Aided Design, Human Supervision and Monitoring, Manual Control, Human Decision Making and Aiding, Speech Recognition and Applications, Visual Processes, Human Information Processing, Computer Graphics.

The Awards luncheon will be held on October 9 at which time we will present the winner of the Taylor Award and have an utstanding luncheon speaker.

SPECIAL ACTIVITIES

We are planning to have an opportunity to relax at the Keystone Recreation Area in the mountains above Denver. Further information will follow.

f you have any questions, please contact Dr. James D. Palmer (202/426-4461.)



Russ Theisen presents certificate of appreciation to Bill Rhoden, last years Section Chairman



Finance Committee analyzing ticket sales at 1979 Engineer of the Year Awards Banquet

MEETING NOTICE COMPUTER SOCIETY

DATE: April 18, 1979

TIME: 7:00 P.M.

PLACE: Orlando Public Library, 10 N. Rosalind Ave., Orlando, FL

SPEAKER: Douglas Jenson

TOPIC: DISTRIBUTED COMPUTER SYSTEMS: THE POTENTIAL

ADVANTAGES, AND A PHILOSOPHY FOR ACHIEVING

THEM

ABSTRACT: This presentation discusses current Honeywell research on a certain class of multiple-processor computers which we call "distributed computer systems". Such systems are very unconventional in that they accomplish global management of all system resources in an integrated fashion but without any centralized data, procedure, or hardward. Few executive concepts and techniques presently exist for achieving decentralized systemwide control, and so distributed computer systems are, in genera, beyond the state of the art. The primary benefits expected from this research are improvements over conventional architectures (such as multiprocessors and computer networks) in modularity and fault tolerance. We hypothesize that a philosophy of suitable partitioning the executive into software, firmware, and hardware might not only facilitate attaining decentralized system control but also help lower software costs. The Honeywell Experimental Distributed Processor (HXDP) is mentioned as an example.

BIOGRAPHY: Have been doing full-time applied research on distributed computer architectures and operating systems for over six years. Contributions to the state of the art in distributed processing resulted in receiving Honeywell's highest technical award. Invited lecturer in two week distributed processing, systems course sponsored by European Economic Community, held in Nice, France, summer 1978. Two week distributed processing lecture series in Tokyo sponsored by the Japanese Electronic Industry Development Association, January 1978. Invited keynot speaker on distributed processing at the Italian Association for Computing Conference in Pisa, October 1977. Invited speaker at IFIP International Symposium on Computer Networks, Budapest, October 1977. Editor for Computer Systems Architecture of the IEEE Transactions on Computers, 1978-80. Keynot Speaker on distributed processing IEEE COMPCON '77/Fall, Washington, D.C. Program Chairman, First International Conference on Distri-Computing Systems, 1979. Program Chairman, 1979 International Architecture Symposium. Co-Chairman, IEEE Computer Society Technical Committee on Computer Architecture 1976-'77. Director, ACM Special Interest Group on Computer Architecture 1976. Invited speaker on distributed processing at numerous universities and research laboratories throughout the USA, Canada, Europe and Japan.



L Jim L. Hart, Jr. • C Mrs. Riad R Sedki M. Riad(Student Advisor Award)



L Chuck Friel (Nominator) LC Mrs. Wade Brown (Nominees wife) C Howard Griffin (Communications Society Chairman) RC Mrs. Griffin R Russ Theisen (Chairman)

1978/79 IEEE ORLANDO SECTION EXECUTIVE COMMITTEE EXECUTIVE BOARD

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The ORLANDO SECTION NOTES are published monthly except July and August by the Orlando Section of IEEE. The NOTES are subsidized by advertising and inquiries regarding rates should be addressed to: William A. Kownacki, NCR Corp., E&M Orlando, 584 Lake Emma Rd., Lake Mary, FL 32746. News items should be forwarded to the Publications Chairman at the phone number above. This Executive Committee meets the first Tuesday of each month in the Alpha Room of the John Young Museum at 5:30 PM and is open to all IEEE members.

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NEW PRODUCT INFORMATION FROM HEWLETT IP PACKARD



INTRODUCTION

Hewlett-Packard's 100 MHz, Model 1744A Variable Persistence Storage Oscilloscope offers 1800 cm/ μ s single shot writing speed for the capture and display of fast transient signals. The fast writing speed and large display area make the 1744A ideal for analysis of narrow pulses in the physical sciences as well as glitches and noise pulses in digital environments. Operation familiarization time is reduced with time use of front panel color coding and logical grouping of controls.

Additional features which provide exceptional versatility and ease of use include auto-erase and auto-store modes, multichannel storage, third channel trigger view for displaying the trigger channel along with both vertical channels, a times five (X5) vertical magnifier for 1 and 2 mV/div deflection factors on both channels to 30 MHz, and selectable input impedance (1 $M\Omega/50\Omega)$ for general purpose probing or convenient 50 ohm impedance matching.

For more information on the new HP 1744A Oscilloscope, and other products, contact your local HEWLETT PACKARD office at 859-2900.

VOLUME XIII NUMBER 9 MAY, 1979



ORLANDO SECTION NOTES



Dr. Ben Patz (Tutorial Chairman) being congratulated by Ron Wojtasinski Chairman of the Florida Council of IEEE

PUBLISHED BY ORLANDO SECTION
INSTITUTE OF
ELECTRICAL AND ELECTRONICS ENGINEERS

CHAIRMAN'S CORNER

I wish to thank George McClure for volunteering to accept the job of Chairman protempore of the Aerospace & Electronic Systems Chapter. George will provide the needed leadership to this Society to make it one of the more productive units of the Section.



There were no responses to the request for petition candidates announced in the March issue. The officers for 1979-80 are as follows:

Chairman Dr. Ernest E. Erickson University of Central Fla.
Vice Chairman George F. McClure Martin Marietta Orlando
Secretary Dr. Ben W. Patz University of Central Fla.
Treasurer John D. Gilbert City of Orlando

These officers will be submitted to the Executive Committee at the next meeting as stipulated in the Bylaws of the Orlando Section.

The installation will be at our annual banquet Saturday, June 9, 1979 at the Imperial House in Winter Park. I hereby invite all section members and their guests to attend this event.

Pardon our slip!-- I would like to make a correction to the errors reported in the April issue: Jim Harte and not Jim Hart was nominated as the outstanding Student Chapter Senior and Dr. Sedki Riad was nominated by the Student Chapter as Engineer of the Year and not as Outstanding Advisor. I apologize for these mistakes.

Eclectic 79 -- We had over 300 attend the three day conference March 21st through the 23rd in Melbourne. I thank our committee especially Dr. Patz for the success of this conference.

Don't miss "The World of Microwaves" April 30 - May 4, 1979 at the Sheraton Twin Towers in Orlando. Our Orlando and Florida West Coast Chapters are jointly sponsoring the 1979 IEEE/MTT's International Microwave Symposium and Workshop. Be sure to attend this outstanding locally held international technical offering.

Note: because of the MTT Conference the Executive Committee meeting will be held on May 8, 1979 (2nd Tuesday) at the St. Margaret Mary Parish Hall in Winter Park instead of the first Tuesday of the month as previously scheduled.

Russ Theisen Chairman Orlando Section

IEEE ORLANDO SECTION

IS SPONSORING: Officer Installation Banquet

DATE: Saturday, June 9, 1979

TIMES: 6:30 P.M. -- cash bar

7:30 P.M. -- dinner; prime rib with all the trimmings

8:30 P.M. -- speech; a humorous talk

SPEAKER: Mr. Hugh Burgay

TOPIC: HAIR

ABSTRACT: The subject is one that will grow on you as you listen to it unless you have a falling out!

HISTORY: Mr. Burgay won the 1974 Toastmaster Speech Contest for the Southeastern United States with his speech. He has given it over the past five years in competition and to private organizations.

Mr. Hugh Burgay, a Project Engineer at the Naval Training Equipment Center, has a BEE from the University of Miami and an MBA from Rollins. His distinguished speaking ability lead him to the office of governor for Toastmaster's South Eastern District.

The speach we will hear won Mr. Burgay first place in the Toastmaster's competition for South Eastern United States in the humerous category.

Bring your spouse and enjoy the evening.

TICKETS: any Section Officer (See inside back cover): \$10.00

PLACE: Imperial House

129 South Orange Avenue Winter Park, Florida The May Executive Committee meeting will be held at 5:30 PM on May 8 (Tuesday) at the Msgr. John Wells Service Center, St. Margaret Mary Catholic Church, 641 North Knowles Avenue, in Winter Park. This delay of one week from the usual first Tuesday date is caused by conflict with the MTT-79 conference held then.

George McClure



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AEROSPACE AND ELECTRONIC SYSTEMS CHAPTER NEWSLETTER

The AES Society will produce the National Aerospace and Electronics Conference (NAECON) on May 15-17 at the Dayton Convention Center, Dayton, Ohio. This conference will feature both a technical program and exhibits, with attendance of 3000 anticipated. A conference record will be produced, and can be ordered from the IEEE Service Center, Piscataway, NJ, by those unable to attend the conference. The catalog number for the conference record is 79CH1449-8 AES.

The Orlando AES Chapter is in the initial planning stages for an active program later in the year. Suggestions concerning topics on which programs of interest could be based, or about possible speakers on topics related to the aerospace electronics field, are welcomed, and should be communicated to George McClure, acting chairman of the chapter, at 352-3782.

The AES Society engages in an active conference program. In addition to NAECON, other conferences it sponsors include Automatic Support Systems for Advanced Maintainability (AUTOTESTCON) (Minneapolis, September 19-21), Electronic and Aerospace Systems Convention (AESCON) (Arlington, VA, October 9-11), and the Aerospace and Electronic Systems Winter Convention (WINCON) (Los Angeles, February 1980).

IEEE COMPUTER SOCIETY

is sponsoring a technical meeting as follows:

DATE: Wednesday, May 30, 1979

TIME: 7:00 P.M.

PLACE: Orlando Public Library, 10 North Rosalind Avenue

Orlando, Florida

SPEAKER: Dr. Rein Turn

TOPIC: Advances in Computer Technology in the 1980's

ABSTRACT: The continuing advances in the LSI/VLSI manufacturing technology are providing ever increasing component densities, circuit complexity, and switching speed while reducing power consumption and cost. Based on these advances, certain projections about future characteristics of these devices can be made and used to forecast improvements in future computer systems architectures and performance capabilities.

BIOGRAPHY: Dr. Turn is a staff engineer with TRW Defense and Space Systems Group where he is working on advanced data processing concepts, distributive data processing, systems architectures, and information security and privacy. He has written numerous papers and a book, Computers in the 1980's.

VEHICULAR TECHNOLOGY CHAPTER NEWSLETTER

At the 29th IEEE Vehicular Technology Conference held in Chicago in March, the Orlando Chapter was recognized with a certificate of appreciation for its efforts in hosting the 27th IEEE Vehicular Technology Conference, held in Orlando in March 1977. Current members of the local chapter who participated in conducting the 1977 conference were Herbert J. Zwarra (Exhibits). Marion L. Cunningham (Hospitality and Membership), J. Richard Endicott (Finance), Melvin C. Kelch (Vice Chairman), and George F. McClure (Chairman).

Among the papers presented at the Chicago conference was a description of the people mover system being developed by Westinghouse's Transportation Division for the Orlando International Airport. This will be a fifth-generation people mover, shuttling passengers between the landside terminal and two satellite airside buildings, each over 1900 feet away. With a total of four roadways, the system is designed to carry 16,000 passengers per hour on electrically-powered, totally automated, air conditioned vehicles.

The predecessors for the Orlando people mover were the Tampa shuttle system (build in 1971), the Seattle-Tacoma system (opened in 1973), the Busch Gardens system in Williamsburg, Virginia (placed in service in 1975), and two systems now under construction: Miami International Airport (to start operations this year) and Atlantas Hartsfield International Airport (where the people mover will begin carrying passengers in 1980).

Arrangements are being made with the Westinghouse project team to present a program describing the Orlando people mover system at a local

IEEE meeting, with the date still to be determined.

IEEE

ECLECTIC 79

The first Annual Conference to be Sponsored by the Florida Council of IEEE (F.C.I.E.E.) in conjunction with the Orlando Section and the Canaveral Sections attracted more than 300 attendees. This was a three day undertaking that included three Tutorial and exhibits. March 21st through the 23rd, 1979.



Dr. Robert F. Cotellessa National IEEE P.A.C. Representative spoke to the Florida Professional Activities Committee (P.A.C.) at the Florida Eclectic 79 Conference. Ron Wojtasinski (FCIEEE) in background

PETITION FOR A BALLOT TO AMEND THE IEEE CONSTITUTION

I (we) the undersigned member(s) of the Institute of Electrical and Electronics Engineers (member grade or above) hereby petition for the following constitutional amendment

to be placed on a ballot and mailed to all voting members in accordance with Article XIV of the IEEE Constitution.

CONSTITUTIONAL AMENDMENT

ARTICLE X Sec. 2 shall be amended to read as follows:

Sec. 2. The Bylaws shall specify those Corporate Officers, other than the President and the Vice President-Professional Activities, if any, to be elected by the voting members and those to be elected by the annual Assembly. Those elected by the voting members, by virtue of such election, shall also be Delegates-at-large and Directors-at-large. Those elected by the annual Assembly, by virtue of such election, shall also be Directors. Other Corporate Officers shall be appointed by the Board of Directors.

ARTICLE XII Sec. 1 shall be amended to read as follows:

Sec. 1. The Board of Directors shall submit to all voting members, on or before May first of each year, a list of nominees for Delegates, Directors, the President, the Vice President of Professional Activities (who shall serve as Chairman for Institute Professional Activities and Chairman of the United States Activities Board) and such Officers as may be specified in the Bylaws to be elected by the voting members for the coming term. This list is to be in accordance with the Bylaws. Submission may be by notice in an IEEE publication which goes to all voting members.

ARTICLE XII Sec. 3 shall be amended to read as follows:

Sec. 3. Nominations by petition for the offices named in Section 1 of this Article may be made by letter to the Board of Directors setting forth the name of the proposed candidate and the office for which the candidate is desired to be nominated, provided such petition is received at the general offices of the IEEE no later than twelve o'clock noon on the Friday prior to June first. On petitions for Vice President of Professional Activities, only signatures of United States voting members shall be counted as valid. The required number of signatures on such petition shall be specified in the Bylaws.

ARTICLE XII Sec. 4 shall be amended to read as follows:

Sec. 4. On or before September first, the Board of Directors shall submit a ballot to all voting members as of August first, in accordance with the Bylaws. The ballot that goes to all United States voting members shall list the

nominees for offices named in Section I of this Article. The ballot that goes to all other voting members shall list the same nominees, except those for Vice President of Professional Activities, which shall be excluded.

Page 9

SIGNED NAME	PRINTED NAME	MEMBER NO. IF KNOWN	DATE
return this			

Robert Bruce, SM 15 Johnstone Road Great Neck, N.Y. 11021

The Professional Activities Committee of the Long Island Section is circulating a petition to place a new constitutional amendment on the IEEE ballot. This amendment would permit the U.S. voting members to elect directly the Vice President of Professional Activities (U.S. Activities Board Chairman). Presently the Annual Assembly appoints him.

The U.S. Activities Board (USAB) manages the professional programs of IEEE U.S. members. These members pay the dues assessment totaling \$1,500,000 per year, that finances USAB. Since U.S. members are assessed to run this activity, we should be permitted to elect directly the USAB Chairman.

SLATE OF OFFICERS 1979-80

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Vice Chairman Pgm's Dr. Gerry White N.T.E.C.

Vice Chairman mbrship Joe Massett Martin Marietta
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COMMUNICATIONS SOCIETY *

Chairman TO BE

Vice Chairman DETERMINED

Secretary

AEROSPACE & ELECTRONIC SYSTEMS

Chairman George F. McClure Martin Marietta

MICROWAVE THEORY & TECHNIQUES

Chairman Dr. Deen D. Khandelwal Martin Marietta

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Chairman Jim Lyons Vice Chairman TO BE Joe Miller

Secretary DETERMINED Jeff Dick

VEHICULAR TECHNOLOGY SOCIETY *

Chairman TO BE

Vice Chairman DETERMINED

Secretary

The 1979 IEEE/MTT's International Microwave Symposium and Workshop is being Sponsored by our local MTT Chapter and the Florida West Coast Chapter, this conference is scheduled for April 30 - May 4, 1979 at the Sheraton Towers in Orlando. Be sure to attend this outstanding local technical offering.

^{*} NOT AVAILABLE OR NOT DEFINITE AT PRESS TIME.

See Page 4 for ExCom, May meeting

1978 / 79 IEEE ORLANDO SECTION EXECUTIVE COMMITTEE

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Chairman	Russell E. Theisen	352-3810	671-4139
Vice Chairman	Dr. Ernest E. Erickson	275-2786	671-5026
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Treasurer	Dr. Ben W. Patz	275-2816	855-3685
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Member-at-Large	Eugene V. Dashiell	859-2900	859-2497
Member-at-Large	Jim Gay	645-1510	644-7884
Member-at-Large	Fred Simons	275-2786	647-7316
Member-at-Large	John Tracy	352-4448	859-1214
Member-at-Large	Bill Cram	830-9403	647-4123

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COMP	Don E. Mendorf Ext 137	339-1600	831-2185
MTT	Deen D. Khandelwal	352-4094	277-5959
PE & IA	Jim Lynes	824-4674	1-847-9453
VT	Mel Kelch	843-8484	859-1533

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ORLANDO SECTION I.E.E.E. ORLANDO, FLORIDA

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NEW PRODUCT INFORMATION FROM HEWLETT MP PACKARD





INTRODUCTION

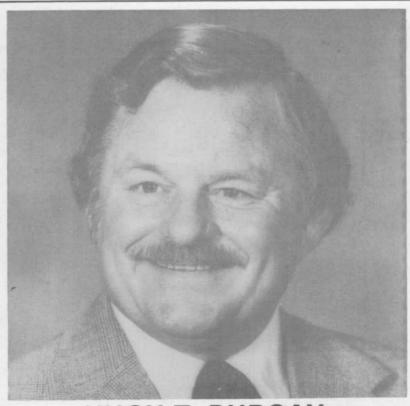
Hewlett-Packard's 100 MHz, Model 1744A Variable Persistence Storage Oscilloscope offers 1800 cm/µs single shot writing speed for the capture and display of fast transient signals. The fast writing speed and large display area make the 1744A ideal for analysis of narrow pulses in the physical sciences as well as glitches and noise pulses in digital environments. Operation familiarization time is reduced with time use of front panel color coding and logical grouping of controls.

Additional features which provide exceptional versatility and ease of use include auto-erase and auto-store modes, multichannel storage, third channel trigger view for displaying the trigger channel along with both vertical channels, a times five (X5) vertical magnifier for 1 and 2 mV/div deflection factors on both channels to 30 MHz, and selectable input impedance (1 M $\Omega/50\Omega$) for general purpose probing or convenient 50 ohm impedance matching.

For more information on the new HP 1744A Oscilloscope, and other products, contact your local HEWLETT PACKARD office at 859-2900. VOLUME XIII NUMBER 10 JUNE 1979



ORLANDO SECTION NOTES



HUGH T. BURGAY
Speaker
Officer Installation Banquet

PUBLISHED BY ORLANDO SECTION
INSTITUTE OF
ELECTRICAL AND ELECTRONICS ENGINEERS

CHAIRMAN'S CORNER

I extend best wishes and hope for a speedy recovery for Irwin Freest, one of the IEEE Petition candidates for IEEE President. Irwin experienced what may have been a heart attack while on vacation here in Florida the last week in April, 1979.



Be sure to attend the statewide workshop June 2, 1979 at the Orlando Sheraton Jetport Inn. All new officers will benefit from this workshop. Where national, regional, and state IEEE officials will discuss the who, what, when, where, why and how of IEEE.

Be sure to attend the Officer Installation Banquet June 9, 1979, Imperial House, I will see you there.

Section membership for the end of April, 1979 stands at (662) with the following breakdown:

4 Fellows

9 Life Fellows

33 Associate Members

65 Student Members

95 Senior Members

446 Members

662 Total

This is my last Chairman's Corner message to you. It has been an honor for me to guide the section's activities in 1979. My job was not difficult since I had the help from the capable and dedicated Executive Committee.

Thanks to all who did their part.

Dr. Ernest E. Erickson of the University of Central Florida will take the driver's seat during 1980, and I will be come the IEEE Region III Awards Chairman. I urge you to give next year's officers all the support you can. They deserve it. Thanks for allowing me to serve the Orlando Section of IEEE. I am very proud to have been a part of it.

Russ Theison Section Chairman

FC IEEE WORKSHOP Coordinator: Dave Flinchbaugh

	COOL	
June 1, 1979 June 2, 1979	6:309:30	PAC Activities Meeting WORKSHOP
	8:459:00	WelcomeRon Wojtasinski
	9:0010:00	Section Responsibilities
	10:0011:00	Field Services
	11:0012:00	PAC Activities Region III
	12:002:00	Lunch Debate: Leo Young, Burkhard Schneider
	2:002:45	FC IEEE Activities Director Webber/McClary
	2:454:00	PAC Activities National

The Orlando Chapter

of the

IEEE

MEETING NOTICE

POWER ENGINEERING SOCIETY AND INDUSTRIAL APPLICATIONS GROUP

Program for Thursday, June 21, 1979

Topic: Energy for the Future - The Breeder Reactor

Location: Conference Room, Florida Power Corporation

1150 North Orange Avenue Winter Park, Florida

Time: 7:30 pm

Information: Jeff Dick 352-4625

"Energy for the Future — The Breeder Reactor" is a special 25- or 40-minute program designed to present factual information for the better understanding of breeder reactors in general and the Clinch River Breeder Reactor Plant Project in particular.

A team headed by Jim Anderson, Nuclear Information Specialist, from Oak Ridge University, Oak Ridge, Tenn. will use a demonstrator and other aides to explain how the Breeder makes electricity and fuel. The team will be prepared for questions and answers.



1980 INTERNATIONAL RADAR CONFERENCE

CALL FOR PAPERS

The Institute of Electrical and Electronics Engineers has announced the establishment of an international radar conference to be held 28—30 April 1980 in Washington, D.C. The conference is being arranged by the Radar Panel of the institute's Aerospace and Electronics Systems Society.

The conference is the next of a series of such conferences held in cooperation with the British professional society, the Institution of Electrical Engineers. The most recent meeting was in London in October of 1977; the last in the US was in April of 1975, also in Washington. Also cooperating are many of the leading radar firms and professional societies of the international community. The conference will be attended by approximately 800 persons from twenty or more nations and offers a fine opportunity to review the state of the radar art and to look ahead to the 1980's. In addition to the program of presented papers, the organizing committee is going to encourage as great as possible author/audience interchange (follow-up discussions off the floor, for example) to make participation even more valuable.

Complete draft papers (approximately 3,000 words plus illustrations) not to exceed 8 pages of the standard double column IEEE format must be submitted. The author's name, complete return address and telephone number should appear on the summary page. The remaining pages and illustrations should bear the author's name and title of papers. Three copies of the paper are to be submitted by Sept. 1, 1979, to the Papers and Program Chairman:

Dr. H. Allen Ecker Scientific Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

Inquiries

Further inquiry may be directed to Dr. Ecker or to the General Chairman, Mr. R. T. Hill, Suite 917, 777 14th Street N.W., Washington, D.C. 20005.

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THROUGH READING AND STUDYING

- IEEE TRANSACTIONS on PROFESSIONAL COMMUNICATION, published quarterly
- IEEE PROFESSIONAL COMMUNICATION SOCIETY NEWSLETTER, published quarterly
- A GUIDE FOR BETTER TECHNICAL PRESENTATIONS, IEEE Press book
- REPORT CONSTRUCTION, a reprint booklet with concise directions for preparing a technical report: organizing, writing, tabulating, illustrating, using symbols, revising, referencing, and formatting.

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- TECHNICALLY -- WRITE!, a home-study correspondence course
- COMMUNICATION AND REPORT WRITING -- a two-day workshop
- PRACTICUM IN COMMUNICATION -- a workshop in group speaking, interviewing, and leading and participating in meetings.

Membership is open to all IEEE members now for the half-year rate of \$3.00, bringing you the Transactions and Newsletters. The next issue of the Transactions is devoted to writing and preparation of patents, disclosures, and applications. Send your membership request and \$3.00 to IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854, or, for further information, call the Area Representative for Florida, George McClure, at 352-3782.

VEHICULAR TECHNOLOGY CHAPTER NEWSLETTER

The program dealing with the new people mover system planned for the Orlando International Airport, mentioned in this space last month, has been set for June 7, at the Orlando Public Library. See the separate announcement for details. John R. Tucker, Westinghouse program manager for this project, will be the speaker.

Increasing public awareness and its effects heightened interest in two studies reported recently. One, presented at the Vehicular Technology Conference in Chicago in March, by Dr. Balzano of Motorola, in Fort Lauderdale, described the use of "phantoms" having the same absorptivity for radiation as human beings, to study the effects of mobile Citizen's Band radio transmitters on people. Chemical composites have been developed having the same characteristics as human muscle tissue and simulating fat and bone. To illustrate his talk, Dr. Balzano brought a live pig on stage for measurements. We are relieved to find that energy deposition in human tissue from 6 watt, 30 MHz transmitters, even with antennas only 0.1 inch from the skin, is so low that no thermal hazard is present.

At last year's Vehicular Technology Conference, in Denver, Dr. Donald R. Justesen of the Veteran's Administration Medical Center, Kansas City, presented a paper entitled, "The Microwave Power Satellite: What Will Happen If Pandora Opens the Joule Box?" He pointed out that little is known of the real limits for radiation on biological organisms before deleterious effects are noted, and that, apart from the effects on humans, there could be unknown effects on airborne species that may traverse the beam or the rectifying ground antenna. Power densities at the center of the ground antenna would reach 25 mW/cm². It is not known whether species such as birds, bats, and insects would learn to avoid these beams, nor whether genetic changes would be fostered in succeeding generations.

In a later paper presented at ELECTRO in April, Dr. Justesen, who is also Chairman of IEEE's Committee on Man and Radiation (COMAR), examined microwave radiation from a biological perspective, particularly noting the differences between East and West. Eastern European standards for limits on safe radiation are 3 to 4 orders of magnitude below the ANSI standard of 10 mW/cm², but the radiation experienced in the Western urban environment is orders of magnitude below the Soviet standard, and is composed largely of FM and TV broadcasts. Physical damage to human beings has never been verified for microwave fields at power densities below 10 mW/cm², but some effects have been noted in small animals at flux densities as low as 500 microwatts/cm², especially where dimensions of the animal or organs promote part- or whole-body resonance.

The Soviet "bombardment" by microwaves of the U. S. Embassy in Moscow produced maximal values of 18 microwatts/cm² along the top floor of the building. Effects reported by personnel working there are classed as part of the neurasthenic syndrome in the East and as the chronic depressive syndrome in the West. They include headache, nocturnal insomnia, lethargy, hyper-irritability, impotence, and loss of libido. It was noted that the level of radiation experienced in the Embassy did not correlate with the extent of reported symptoms. Those working on lower floors having less radiation were as likely to report symptoms as those working on the upper floors experiencing maximum radiation.



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WHY I AM A CANDIDAT

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LEO Y

I. Petition Status Report

More than 3,000 IEEE members have now signed petitions for my candidacy, one month before the deadline, twice as many as are required to qualify a candidate.

II. The IEEE Problem in a Nutshell

For the past several years there has been a choice for President during the IEEE elections, but the candidates have been largely polarized between strictly technical endeavors and strictly professional activities. This has had an unhealthy, divisive effect upon the Institute.

III. My Platform

- TECHNICAL PURPOSE
 - · Maintain IEEE's technical excellence.
 - Disseminate meaningful and useful technical information to practicing engineers.
- · CAREERS
 - · Enhance engineering as a profession
 - Speak up when engineering careers are threatened
 - · Step up support for more equitable pension legislation
- LEGISLATION
 - Interact more strongly with governmental bodies to provide impartial technical information
 - Support legislation beneficial to the engineer
- A DEMOCRATIC/RESPONSIVE INSTITUTE
 - · Become a more responsive, more democratic Institute
 - Ensure freedom of the press within IEEE

FOR PRESIDENT OF IEEE

ory, candidly told

UNG



Dr. Leo Young handing his petition to run for IEEE President to Miss Emily Sirjane, Director of Corporate Services, in her office on April 25, 1979, one month before the deadline. By that time well over 3,000 signatures had been received, more than twice the number required.

VOTE

Compare the record of the other candidates and vote for the man you think is BEST TECHNICALLY, BEST PROFESSIONALLY, MOST EXPERIENCED IN IEEE, MOST KNOWLEDGEABLE IN ELECTRONICS TECHNOLOGY, MOST RESPONSIVE TO ALL MEMBER NEEDS, AND MOST FAIR MINDED.

HELP US MAKE IEEE MORE RESPONSIVE!



JOINT MEETING NOTICE

SPONSORS:

AEROSPACE AND ELECTRONIC SYSTEMS SOCIETY COMPUTER SOCIETY VEHICULAR TECHNOLOGY SOCIETY

Date:

Thursday, June 7, 1979

Time:

7:00 P.M.

Place:

Orlando Public Library Auditorium

10 North Rosalind Avenue, Orlando, Florida

Speaker: John R. Tucker

Topic:

Orlando Airport People Mover System

ABSTRACT: Five generations of people mover systems, starting in the mid1960s with the Skybus test system near Pittsburgh, have been developed by
Westinghouse. The first operational system was installed at the Tampa airport
in 1971 and has since carried 100 million passengers nearly 3 million miles.
Two other Westinghouse people mover systems are now under construction:
the system at Miami International Airport is scheduled for operation this year,
and the system at the new Atlanta Hartsfield Airport will begin carrying
passengers in 1980. The people mover to be installed at Orlando International
Airport will be the fifth generation. This system, including its vehicle design,
power distribution, computer control, and communications, will be described.
It is planned to have a capacity of 16,000 passengers per hour. Another people
mover system, to be installed at Gatwick Airport in London, will also be
reviewed.

SPEAKER: John R. Tucker is Project Manager, Orlando International Airport, for the Transportation Division of Westinghouse Electric Corporation, Pittsburgh, Pennsylvania. He is currently commuting between Pittsburgh, Orlando, and London and becoming an expert on the effects of jet lag.

IEEE ORLANDO SECTION

IS SPONSORING: Officer Installation Banquet

DATE: Saturday, June 9, 1979

TIMES: 6:30 P.M. -- cash bar

7:30 P.M. -- dinner; prime rib with all the trimmings

8:30 P.M. -- speech; a humorous talk

SPEAKER: Mr. Hugh Burgay *

TOPIC: HAIR

ABSTRACT: The subject is one that will grow on you as you listen to it unless you have a falling out!

HISTORY: Mr. Burgay won the 1974 Toastmaster Speech Contest for the Southeastern United States with his speech. He has given it over the past five years in competition and to private organizations.

Mr. Hugh Burgay, a Project Engineer at the Naval Training Equipment Center, has a BEE from the University of Miami and an MBA from Rollins. His distinguished speaking ability lead him to the office of governor for Toastmaster's South Eastern District.

The speach we will hear won Mr. Burgay first place in the Toastmaster's competition for South Eastern United States in the humerous category.

Bring your spouse and enjoy the evening.

TICKETS: any Section Officer (See inside back cover): \$10.00

PLACE: Imperial House

129 South Orange Avenue Winter Park, Florida

^{*} See Cover Picture

FIRST CALL FOR PAPERS 1979 IEEE INTERNATIONAL ELECTRON DEVICES MEETING

The Annual Technical Meeting of the Electron Devices Society will be held at the Washington Hilton Hotel, Washington, D.C., December 3-5, 1979.

ABSTRACT DEADLINE

The deadline for submission of abstracts is August 3, 1979.

AREAS TO BE COVERED

Solid State Devices

Electron Tubes

Devices based on new principles

Energy-Conversion Devices

Device Technology

Quantum-Electronic Devices

Integrated Electronics

Detectors, Sensors and Displays

STUDENT PRESENTATION OF

STUDENT PRESENTATION OF PAPERS ENCOURAGED

Student Best Paper Award

Student Speaker Travel Assistance

PREPARATION OF ABSTRACTS

The deadline for submission of abstracts is August 3, 1979.

FURTHER INFORMATION

All questions or inquiries for further information regarding this meeting should be directed to the Conference Manager, Sarah M. Cooper, at the address given below. If the address indicated on the mailing label portion of this CALL is incorrect, please make the necessary corrections, detach the label portion and return it to Courtesy Associates.

Sarah M. Cooper Conference Manager Courtesy Associates, Inc. 1629 K Street, N.W., Suite 700 Washington, D.C. 20006 U.S.A.

AEROSPACE AND ELECTRONIC SYSTEMS CHAPTER NEWSLETTER

Mark your calendars for the June 7 meeting, jointly sponsored by the Orlando AES chapter, at which plans and designs for the people mover system for the new terminal at Orlando International Airport will be described by the program manager for the builder, Westinghouse's Transportation Division. Details are contained in the meeting announcement in this issue.

Acting officers for the chapter are George McClure, Chairman, and Dr. Dave Flinchbaugh, Vice Chairman. Those interested in assisting the chapter with services or by suggesting program topics for the up-coming season are requested to contact either one. A future program is planned describing the Satellite Power System (SPS), a concept now being studies by the Department of Energy (DOE) as an alternative energy source. A ground rectifying antenna measuring 10 by 13 kilometers would serve as the interface to the utility power system, delivering 5 Gigawatts. A solar collector consisting of a planar array of 55 square kilometers converts the solar flux to microwaves, through photovoltaic processes. A one kilometer diameter phased array antenna, using klystrons as power amplifiers, then directs the energy to earth, using an operating frequency of 2.45 GHz.

A paper presented at the recent International Microwave Symposium in Orlando dealt with the health and ecology problems posed by SPS. The Environmental Protection Agency has been asked by DOE to conduct this enironmental assessment. Research is planned in five areas to define thresholds for effects on biological systems, including airborne biota, and on behavioral, teratologic, immunologic, hematologic, and central nervous system endpoints in mammals.

SPS is projected to become operational by the year 2000 at the earliest, and would cost 95 billion dollars for R&D and the deployment of the first satellite. Thus, feasibility of the concept must be evaluated early as a high priority task.

The theme for last month's NAECON '79, held in Dayton, Ohio, was "Genesis for Tomorrow's Technology," with emphasis on the electronic development and advances anticipated to be available for aerospace applications during the 1980's. In addition to about 200 papers presented, there were over 70 exhibits representing industry, Air Force laboratories, technical, and service organizations and their activities. Topics covered by papers at the conference included:

- Engineering Systems
- Flight-Essential Avionics
- Digital Technology
- Life Cycle Considerations
- · Command, Control & Communications
- Sensor/Weapon Technology
- Software Engineering Management

A highlight of the Conference was a luncheon speech by Jerry Suran, President of IEEE, who spoke on the subject, "Attack on Technology." After discussing exponential processes in the context of limits on world growth, and considering the role technology can play in helping us evaluate ever more complex decision-making, Suran cited five ethics of engineering that should be followed:

1) Ethics of Experiment:

We should realize the difference between computer models and the real world; as systems become more complex, we may not be able to test them and their effects exhaustively, e.g., large scale integrated circuits cannot be tested in all possible combinations of states.

2) Ethic of Uncertainty:

Heisenberg's Uncertainty Principle still applies, e.g., in measurements of signal-to-noise ratios. Technology assessment is not a precise science, because of the uncertainty surrounding the ultimate development of a given technology. Engineers should show humility in their assessments of technology and look to others to do so, too.

3) Ethics of Tradeoff:

There is no such thing as a free lunch. Everything affects the environment, and tradeoffs are needed to determine the best course to follow.

4) Ethic of Measurement:

Oscar Wilde defined a cynic as one who knows the cost of everything and the value of nothing. Suran characterized as a hypocrite one who knows the value of everything and the cost of nothing, citing environmental examples.

5) Unity of Technology:

Technology is not divided into two camps, hard and soft. It can be both constructive and destructive, in various applications. Examples cited included radiation, television, computers, and aircraft.

The world romanticizes nature, but nature is not very kind. Of all the species that have ever lived, 99.9 percent have been killed off. The dinosaur persisted for 200 million years, longer than any other specie, but ultimately was eliminated. We worry about pollution, but volcanoes are greater polluters than all of industry. Earthquakes create disasters, as in the tidal wave that hit India last year. Natural childbirth is a nice idea, but since a tenth of all births have problems, it is safest to carry it out in a fully-equipped hospital. These were some of the examples Suran used to emphasize the need to teach these ethics to social scientists and the news media, in addition to assuring that they are recognized by the engineering community.

It is planned that a tape recording will be made available through IEEE of a similar speech made by Suran during the Washington conference on technology and productivity held last month.

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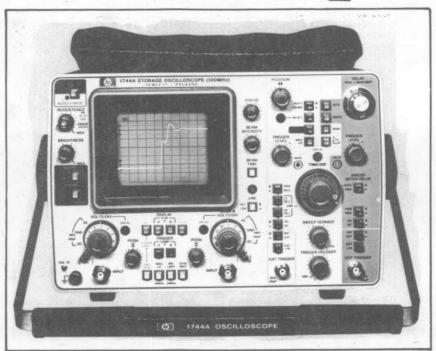
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NEW PRODUCT INFORMATION FROM HEWLETT IP PACKARD



INTRODUCTION

Hewlett-Packard's 100 MHz, Model 1744A Variable Persistence Storage Oscilloscope offers 1800 cm/ μ s single shot writing speed for the capture and display of fast transient signals. The fast writing speed and large display area make the 1744A ideal for analysis of narrow pulses in the physical sciences as well as glitches and noise pulses in digital environments. Operation familiarization time is reduced with time use of front panel color coding and logical grouping of controls.

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