

IEEE



The
**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 6

CIRCULATION 1250

DECEMBER 1988



Warm Holiday Wishes

CHAIRMAN'S CORNER

December 1988

The Section Notes have a new format this month and a new publisher. Our previous publisher T.T. Publications, Inc. has resigned our account with regret. After two years of effort they have not been able to make the Orlando Section Quarterly a profitable operation.

The Executive Committee reviewed the situation at the November meeting and accepted a proposal by Jorge Medina to publish the Section Notes. The Publication Committee was given a budget of slightly more than \$3,000 to continue the publications through the end of the year as they saw fit. We are still looking for a way to continue the publication of the Section Quarterly. Your ideas and help are earnestly solicited. Contact one of the members of the Executive or Publications Committee.

In order to supplement the reduced publications schedule, we are expanding our Voice Information Center. If you have a touch tone telephone you can call 843-7030 Ext. 360 and get information on the Orlando Section and current activities.

If you have any ideas or comments on how the Section can serve you better, please give me a call or drop me a line. Better yet come to the December 5th Executive Committee meeting. For details and directions call the Voice Information Center.

Tom Nelson

Orlando Section Chairman

EXECUTIVE BOARD

Chairman: Tom Nelson	(Bus.) 843-7030 _{ext. 360}	(Home) 365-6837
Vice Chairman: Dr. G. Keith Huddleston	(Bus) 356-7201	(Home) 339-7201
Secretary: Jorge Medina	(Bus) 330-5346	(Home) 260-1676
Treasurer: Dr. Madjid Belkerdid	(Bus) 275-2318	(Home) 699-4890
Chapters' Chairman: Dr. Ali Atashroo	(Bus) 356-3462	(Home) 539-0465



Star Search



*WE'RE LOOKING FOR
A FEW GOOD ENGINEERS!*

by Frank Fluet

Call for Awards Nominations

Each year, the Orlando Section tries to identify the noteworthy, exceptional, highly skilled engineers amongst us for recognition and awards. We need your help. As our profession becomes more and more technical and specialized, we must rely on you to identify your co-workers or associates who have distinguished themselves in your specialty.

Has a colleague or a truly gifted engineering professor made an impression on you? This is your opportunity to let us know who they are.

We are looking for potential candidates for major Section awards. The "Outstanding Engineer Award" and the "Outstanding Engineering Educator Award" will be presented in February, 1989.

The Orlando Section has over 1,200 engineers in five Central Florida counties. We can only get to know who the top performers are with your help. For additional information on these awards, or other IEEE Institute awards, contact your Section Awards Chairman - Frank Fluet (407) 332-5203.

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

The Awards

As part of our Section's annual AWARDS BANQUET, held in conjunction with "National Engineering Week", mid-February, 1989, the following Orlando Section awards will be presented:

OUTSTANDING ENGINEER
OUTSTANDING ENGINEERING EDUCATOR
OUTSTANDING SENIOR EE STUDENT*
OUTSTANDING EE GRADUATE STUDENT*

In addition, an award will be made to each CHAPTER ENGINEER OF THE YEAR as selected by the local Chapter of each of the following IEEE Societies:

- Aerospace and Electronic Systems
- Antennas & Propagation/Microwave Theory and Techniques (joint Chapter)
- Acoustics, Speech and Signal Processing
- Components, Hybrids and Manufacturing Techniques/Electron Devices (joint Chapter)
- Computer Society
- Communications/Vehicular Technology (joint Chapter)
- Power Engineering/Industry Applications (joint Chapter)
- Ultrasonics, Ferroelectrics and Frequency Control

*to be selected by the EECS Department at UCF

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All members are invited to attend.

IEEE



The

**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 7

CIRCULATION 1250

JANUARY 1989

Did Hertz really start the first rental car company?

Was Maxwell a coffee king?

Does a Faraday keep the doctor away?

**These and many more "electrifying" questions
will be answered at the**

**1989 Orlando Section
Awards Banquet**

**Saturday
February 25, 1989
Altamonte Springs Hilton**

CHAIRMAN'S CORNER

January 1989

For many of our members, December is a special Holiday Season. I hope you and your families had a happy and safe celebration and want to extend best wishes to everyone for a Happy New Year.

The New Year is traditionally a time for making resolutions and changes in one's life. Do yourself a favor and make a resolution to attend one IEEE technical meeting in 1989. There are eight chapters in the Orlando Section offering technical programs and plant tours for the members. A new chapter LEO (LASERS and ELECTRO-OPTICS) is being formed. Check the Section Notes for meeting announcements. Contact me or your Chapters Chairman to find out how you can become active in your Section or Chapter.

The Awards Banquet is scheduled for February 25th. Mark your calendar and plan to attend. Your Programs Chairman, Dr. Don Malocha promises an interesting and enjoyable time for all. It is still not too late to make Awards nominations. Contact Frank Fluet, our Awards Chairman.

If you have any ideas or comments on how the Section can serve you better, please give me a call or drop me a line. The next Executive Committee meeting is scheduled for January 3rd at Automation Intelligence at 5:30 P.M. On January 14th the Region 3 Executive Board will be meeting in Orlando along with the Florida Council. This is an excellent opportunity to meet your Region and Council representatives and find out what they are doing for your benefit. For details call the Voice Information Center at 843-7030 ext. 360.

Tom Nelson

Orlando Section Chairman

EXECUTIVE BOARD

Chairman: Tom Nelson	(Bus.) 843-7030ext. 360	(Home) 365-6837
Vice Chairman: Dr. G. Keith Huddleston	(Bus) 356-7201	(Home) 339-7201
Secretary: Jorge Medina	(Bus) 330-5346	(Home) 260-1676
Treasurer: Dr. Madjid Belkerdid	(Bus) 275-2318	(Home) 699-4890
Chapters' Chairman: Dr. Ali Atashroo	(Bus) 356-3462	(Home) 539-0465

TOUR OF OUC'S ROBINSON STREET SUBSTATION

DON'T MISS THIS OPPORTUNITY FOR AN INSIDE LOOK

BACKGROUND

The new construction that is so prominent in downtown Orlando has added millions square feet of office space. More than 35,000 workers converge on the downtown area daily and growth continues at record rates. To deliver power to its downtown customers, the Orlando Utilities Commission was faced with the need to build a large, 115,000 Volt substation in the heart of the city - where land was dearest and outside appearance was critical. For economic as well as aesthetic reasons, OUC chose to build a compact SF₆ substation that blends into the city scape. In addition to its state-of-the-art GIS construction, the station boasts many unique features, such as a fiber optic loop linking it to OUC's electric control center and a master computer for on-site control and monitoring.

PROGRAM:

Our program consists of a technical presentation and tour and will be held inside the Robinson Street Substation. Jim Jones, OUC's Director of Substation Operations and Maintenance, will describe the station's unique design features and then lead the tour. Engineers from Black and Veatch, OUC's consulting engineer for design and construction of the station, will be present to answer questions relating to their scope of work.

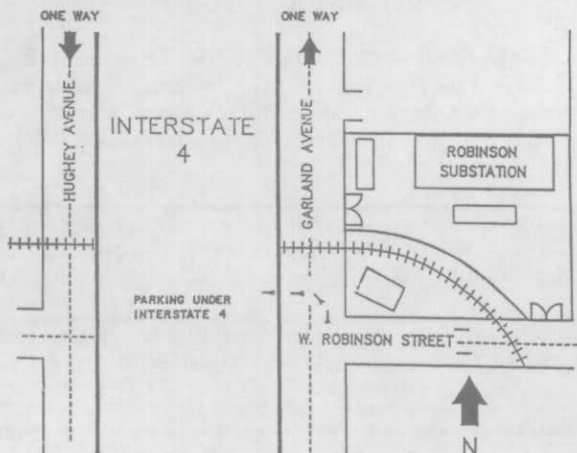
DATE: Tuesday, January 24, 1989

TIME: 6:00 PM Dinner
7:30 PM Tour

PLACE: Dinner at Bakerstreet Restaurant in Dupont Centre, North Orange Ave at Livingston Street.

Tour at the substation located at Robinson St. and Garland Ave. Limited parking is available at the substation; OUC has arranged for additional parking under I-4 adjacent to the station. See the map, below.

RESERVATIONS ARE REQUIRED for dinner or tour. Deadline is Friday, January 20. Please call Mike Haddad, 281-2393, Jim Pipkin, 281-2916 or Rich Jackfert, 281-2287.



Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

ANTENNAS & PROPAGATION/ MICROWAVE THEORY & TECHNIQUES (AP/MTT)

Topic: Millimeter Wave Monolithic Circuit Development

Speaker: Dean Boyer, Engineering manager at Martin Marietta

Date: January 19, 1989

Time & Location: 5:30 P.M. at Hewlett Packard, 6177 Lake Ellenor Drive, Orlando.

Contact: For more information call Christos Christodoulou at 281-5831.

IN MEMORIAM

John Boynton, former Chairman of the Orlando Chapter of the Power Engineering Society, winner of the Section's Engineer of the Year Award in 1974 and an inspiration to all who knew him died on November 25, 1988.

ORLANDO CHAPTER OF INDUSTRY APPLICATIONS SOCIETY RECEIVES NATIONAL RECOGNITION

Congratulations to Mike Haddad, Bob Gray, Martine Levy, Frank Breeze, Rich Chruszcz, John Glaeser and Carl Flick, last year's PES/IAS executive committee. The Industry Applications Society has given the Orlando Chapter national recognition by naming it the "Outstanding Small Joint Chapter" for the 1987-1988 year.

The meeting announcements deadline is the 15th of every month. The announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at (407) 330-5306 or called in at 260-1676 or (407) 330-5346.

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All members are invited to attend.

IEEE



The

**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 8

CIRCULATION 1250 FEBRUARY 1989

***IEEE Orlando
1989 Section Awards Banquet***

Altamonte Springs Hilton
350 South North Lake Boulevard
Altamonte Springs, FL
(Off S.R. 436)

Saturday, February 25, 1989

6:30 pm Hors d'oeuvres and Cash Bar
7:30 pm Dinner - Boneless Breast of Chicken
Cost \$21.50 per person

Invited Speaker
Dr. J. Paul Hartman
Professor and Assistant Dean
University of Central Florida

Electrical Pioneers: Some Vignettes

A slide presentation highlighting contributions of noteworthy pioneers in electrical science, including Franklin, Volta, Faraday, Maxwell and others. Interesting, educational and amusing for both EE's and spouses.

For reservations, contact:
Don Malocha, Office:275-2414, Home: 862-5693
Tom Nelson, Office: 843-7030 ext. 360, Home: 365-6837

CHAIRMAN'S CORNER

February 1989

The 1989 Awards Banquet is scheduled for February 25th at the Altamonte Springs Hilton. Festivities begin at 6:30 P.M. with a cash bar.

The next Executive Committee meeting is scheduled for February 7th at Automation Intelligence at 5:30 P.M. Some of you have taken the time to give me a call and give me some input on how we can serve you better. Thank you and please keep the comments coming.

On January 14th the Region 3 Executive Board and the Florida Council met in Orlando and approved a Special Project grant of \$1,200 for the Orlando Section. They each gave 50% of the funding to purchase a PC-AT for the Voice Information Center. In return we will be setting up the system and writing reports on the results of our experience using this new technique to provide better section communications. We hope to put the PC to other uses in the section. If you are interested in participating please come to the next Executive Committee or give me a call.

It is with deep regret that we note the death of Philip J. Seeger in a tragic automobile accident. He was a member of the Engineering Management Society and resident of Winter Springs.

Tom Nelson

Orlando Section Chairman

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All members are invited to attend.

'88-'89 EXECUTIVE BOARD

Chairman: Tom Nelson	(Bus.) 843-7030 _{ext. 360}	(Home) 365-6837
Vice Chairman: Dr. G. Keith Huddleston	(Bus.) 356-7201	(Home) 339-0336
Secretary: Jorge Medina	(Bus.) 330-5346	(Home) 260-1676
Treasurer: Dr. Madjid Belkerdid	(Bus.) 275-2318	(Home) 699-4890
Chapters' Chairman: Dr. Ali Atashroo	(Bus.) 356-3861	(Home) 539-0465

IEEE Power Engineering Society/Industry Applications
Society of Orlando Section IEEE

Announces

*"Careers in Power Engineering
for the 1990s"*

Engineer's Week 1989

Panel Discussion at University of Central Florida (UCF)
Co-sponsored by the UCF IEEE Student Branch

Friday February 24, 2-4 P.M.
CEBA 427 - School of Engineering

Panel Members:

- Roger Greenwood, P.E. - Project Mgr. - Generation Projects
Westinghouse Electric Corporation
- Windell A. Dixon, P.E. - Asst. Mgr. - Electric Operations
Orlando Utilities Commission
- J. Ronald Jarvis, P.E. - Senior Vice-President
Black & Veatch, Inc.
- Ed Lobnitz, P.E. - Chairman and Chief Executive Officer
Tilden, Lobnitz, and Cooper, Inc.
- Avelino Gonzalez, Ph.D., P.E. - Computer Engineering Dept.
University of Central Florida

Moderator:

- Abel Fernandez, P.E. - Director of Industrial Relations
University of Central Florida

This will be an audience participation discussion where the students will have the opportunity to ask questions of the panel members related to career interests, advancement potential, salaries, benefits, graduate research, new developments in the power field, and the impact of computers and artificial intelligence as applied to power engineering. The students will be informed of the attempt to establish a graduate program at UCF in Power Engineering.

For reservations contact: Bob Gray - Westinghouse 281-3269 or
Professor Mike Harris - UCF 275-2548.

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

Antennas & Propagation/Microwave Theory & Techniques (AP/MTT)

Topic: "Microwave and Gigabit Superconductive Electronics"

Speaker: Dr. Arnold H. Silver, TRW Space and Technology Group, CA.

Date: February 23, 1989.

Time: 5:30 P.M.

Location: Hewlett Packard, 6177 Lake Ellenor Drive, Orlando

Contact: For more information call Dr. Christos Christodoulou at 281-5831.

Ultrasonics, Ferroelectrics and Frequency Control (UFFC)

Topic: "SAW Dispersive - Design and Application"

Speaker: Roy Brown, Research & Development, SAWTEK, Inc.

Date: February 28, 1989.

Time: 6:00 P.M.

Location: UCF, Engineering Building (CEBA) Room 456.

Abstract: Surface Acoustic Wave (SAW) dispersive technology can be used in many applications that are different to realize with other technologies. Methods of SAW dispersive device design will be shown along with applications. Performance capabilities and the limitations in various applications will also be discussed.

Contact: For more information call Sam Richie at 281-5765 or Raymond Yap at 886-8860.

The meeting announcements deadline is the 15th of every month. The announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at 330-5306 or called in at 260-1676 or 330-5346.

IEEE



The

ORLANDO SECTION MONTHLY

VOLUME XXII
NUMBER 9

CIRCULATION 1250

MARCH 1989

- **ADVERTISEMENT WANTED**
- **BUSINESS CARDS**
- **BUSINESS PRODUCT LINES**
- **CALL FOR PAPERS**

With a guaranteed circulation of 1,250 monthly, you will reach the Central Florida's top engineers in this important field. Here are some of the disciplines you will be covering:

electron devices
communications
microwaves
power
aerospace industry
ultrasonics
antennas
computers

And here are some of the major equipment purchases for which they are responsible:

semiconductor fabrication equipment
computers and peripherals
RF and microwave test equipment
antennas
vacuum technology equipment
and a wide range of test equipment

See last page for advertising rates.

CHAIRMAN'S CORNER

March 1989

The 1898 Awards Banquet is history. Many thanks to Don Malocha, our Programs Chairman, for the excellent arrangements and enjoyable speaker. Congratulations to all those who received awards. The Awards Committee had some difficult choices as again this year there were many excellent nominations. This years winners of Section Outstanding Engineer and Section Outstanding Engineering Educator will be nominated for the Region 3 awards. Many thanks to Frank Fluet our Awards Chairman for another excellent Awards Program.

The next Executive Committee meeting is scheduled for March 7th at Automation Intelligence at 5:30 P.M. We will be looking for some new blood to help run the Section as we get ready to elect new officers. Conference activities are starting to heat up and we need some volunteers to help with the Vehicular Technology and GlobeCom conferences the Section is co-sponsoring. These conferences will provide additional services to you. Some of you may be disappointed in the lack of activities in your Chapters. Chapter elections are coming up. Now is the time to become active in your Chapter and do something to make it better. None of us has time on our hands, but if something is important, we find a way to make time available. Do yourself a favor and make some time for professional activities in the IEEE.

It is with deep regret that we note the passing of Life Member Dr. E. B. Hales. Dr. Hales was a member of the AES, Computer and Oceanic Engineering Societies and a resident of Maitland.

Tom Nelson
Orlando Section Chairman

ASSISTANT CHAIR & INSTRUCTOR

The Electrical Engineering Department/University of Central Florida is seeking a Non-Tenure earning position for an Assistant Chair/Instructor.

MS Degree in Electrical Engineering with several years of administrative experience preferred.

This position requires teaching some CORE courses and working with Faculty, Graduate/Undergraduate students and some subcommittees to ensure and efficiently run department.

Salary range: \$30,000 - \$35,000.

Application postmark date - March 16, 1989.

Submit application and complete resume to:

Dr. Nicolaos Tzannes
Electrical Engr. Dept.
University of Central Florida
P.O. Box 25000
Orlando, FL 32816

An Equal Opportunity/Affirmative Action Employer.

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

6464887 M
JORGE MEDINA
PO BOX 521917
LONGWOOD
G25 ***
IFR23
FL 32752

TIME SENSITIVE MAIL

IEEE ORLANDO EXECUTIVE BOARD

Chairman: Tom Nelson (Bus.) 843-7030^{ext. 360} (Home) 365-6837
Vice Chairman: Dr. G. Keith Huddleston (Bus.) 356-7201 (Home) 339-0336
Secretary: Jorge Medina (Bus.) 330-5346 (Home) 260-1676
Treasurer: Dr. Madjid Belkerdid (Bus.) 275-2318 (Home) 699-4890
Chapters Chairman: Dr. Ali Atashroo (Bus.) 356-3462 (Home) 539-0465

SOCIETY CHAPTER OFFICERS

Chapter	Chairman	Business	Home
AES	Robert C. Harney	356-2373	352-6991
AP/MTT	Christos Christodoulou	281-5831	657-5120
ASSP	David M. King	629-1720	682-1904
COMPUTER	Narsingh Deo	275-2341	679-6186
COM/VT	Michael G. Georgiopoulos	281-5338	657-5085
ED/CHMT	Robert Canright	356-2373	352-6991
LEO	M. G. (Jim) Moharam	658-6833	679-0073
PE/IA	Robert F. Gray	281-3269	699-6098
Student Branch	Jeff Zuelch	679-8265	
UFFC	Sam M. Richie	281-5765	671-2568

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All IEEE members are invited to attend.

The ads/meeting announcements deadline is the 15th of every month. The ads/announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at 330-5306 or called in at 260-1676 or 330-5346.

ADVERTISING RATES

Ad Size (Camera Ready)	1-2 Insertions	3-11 Insertions
1/4 page (4 1/2 X 2)	\$45/issue	\$35/issue
1/3 page (4 1/2 X 2 3/4)	55	45
1/2 page (4 1/2 X 4 1/4)	65	55
2/3 page (4 1/2 X 5 3/4)	75	65
3/4 page (4 1/2 X 6 1/4)	85	75
1 page (4 1/2 X 7 1/2)	100	85
2 pages (4 1/2 X 10)	150	130

THE IEEE POWER ENGINEERING/INDUSTRY
APPLICATIONS SOCIETY
(ORLANDO CHAPTER)

IS PLEASED TO ANNOUNCE

THE POWER SYSTEMS ANALYSIS SEMINAR PROGRAM

TIME: 6:30 - 9:00 on Wednesday evenings from April 5, 1989 to May 3, 1989.

PLACE: 6th floor Conference Room, Orlando Utilities Commission Building, 500 S. Orange Ave. (Corner of Anderson St. and Orange Ave.), Orlando.

REGISTRATION FEE: \$100 for IEEE member, \$125 for Non-members (\$25 rebate for non-members who join the IEEE during the course)

OBJECTIVE: To impart an understanding of the basic tools of power system analysis and protection to engineers and technicians who have a need to become familiar with power system equipment. A background in Power Engineering is desirable but not necessary. Instructors will be practicing engineers with local engineering firms, utilities, and manufacturers. A certificate of completion will be awarded at the end of the course.

SCHEDULE

CLASS	TITLE	PRINCIPAL INSTRUCTOR
1	Introduction to Power Systems Analysis	Jim Pipkin Westinghouse Electric Corp.
2	Per-Unit and Percent	Lon Montgomery Westinghouse Electric Corp.
3	Symmetrical Components and Sequence Diagrams	Ed Lobnitz Tilden Lobnitz and Cooper Engineering, Inc.
4	Short Circuit Studies	Robert Miller R. W. Beck and Associates
5	Practical Power Systems Protection	Gordon Worrall Black and Veatch, Inc.

For further information contact Program Coordinators:

Bob Nelson (R. W. Beck) 422-4911

Luis Ramos (Black and Veatch) 240-9015

Ultrasonics, Ferroelectric and Frequency Control
(UFFC)

Distinguished Lecturer Program

Topic: "Nondestructive Evaluation in Aerospace - Requirements for Science, Sensors and Sense"

Speaker: Dr. Joseph Heyman, NASA - Langley Research Center. He received a Ph. D. in Physics from Washington University in 1975. He began his work at NASA Langley Research Center in 1964 and developed the model and analysis for the Apollo Solar Wind Experiment. In 1971, he started the NASA Laboratory for Ultrasonics which has grown to a major NDE research center. He has over 15 patents and over 120 publications. Dr. Heyman has received numerous awards including the NASA Exceptional Service Award, the Arthur S. Fleming Award for the Outstanding Federal Employee in Science, and the NASA Inventor of the Year Award. He is currently Head of the Materials Characterization Instrumentation Section at NASA and is Program Manager of the Agency's Research in Advanced NDE.

Abstract: In this talk, aspects of aerospace NDE will be reviewed and recent advances discussed. The measurement focus will be on ultrasonics with generous case examples. As an example, a physical ultrasonics model of the Solid Rocket Motor (SRM) will be discussed.

Date: Thursday, March 30, 1989 **Time:** 7:00 P.M.

Location: This is a dinner meeting to be held in Rosie O'Grady's at Church Station. The dinner charge will be \$20.00 which includes complimentary admission to Church Street Station (a \$14.95 value).

Contact: For reservations or more information, contact Sam M. Richie at 281-5765 or Raymond Yap at 886-8860.

Acoustics, Speech and Signal Processing
(ASSP)

Topic: "Morphological Filters"

Speaker: David M. King, ASSP Acting Chairman

Date: March 15, 1989.

Time: 5:00 P.M.

Location: UCF (CEBA) Room 122

Contact: For more information call David King at 629-1720 or 682-1904

IEEE



The

**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 10

CIRCULATION 1250

APRIL 1989

1989 Orlando Section Awards Banquet



**Outstanding Engineer, Carl Flick (left)
and Outstanding Engineering Educator, Dr. Charles E. Hughes**

1989 Chapter Engineers of the Year: Steven Gray (AP/MTT), Dr. Nicolaos Tzannes (COM/VT), John H. Boynton, Jr. (PE/IA), Sunderdas G. Gopani (UFCF).

Student Award Winners: Joe M. Pendergrass (Outstanding Senior Student), and Jacqueline H. Hines (Outstanding Graduate Student)

CHAIRMAN'S CORNER

April 1989

The Orlando Section elects officers for a term of one year beginning July 1. This year the Nominating Committee has selected Dr. G. Keith Huddleston for Chairman. Dr. Madjid Belkerdid for Vice Chairman, Jorge Medina for Treasurer and Dr. Ali Atashroo for Secretary. These candidates are all well qualified active members of the Section. They have previously served on the Executive Board and as Chapter Chairmen and I recommend them to you highly.

The Section membership may make additional nominations for these offices by submitting qualified petitions to the Section Chairman by May 1, 1989. The new officers will be installed at the Annual Installation Meeting of the Section to be held in June. The May Section Notes will contain additional information.

We are delighted that Dr. Robert C. Smythe has been chosen for this year's Region 3 Outstanding Engineer Award. The award will be presented at SoutheastCon in April. Dr. Smythe received the Orlando Section Outstanding Engineer Award last year.

The next Executive Committee meeting is scheduled for April 4 at Automation Intelligence at 5:30 P.M. We will be appointing an Election Committee and making plans for the Installation Banquet. There will be some light refreshments to tide you over until dinner. Come join us! We're always looking for some new faces who would rather "light a candle than curse the darkness."

Tom Nelson

Orlando Section Chairman

High-Tech Honors and IEEE-USA Awards

Dr. Donald Malocha and Dr. Narsingh Deo, IEEE Orlando Section members, were among 10 scientists recognized in March, 1989 by Gov. Bob Martinez for their contributions to the study of high technology.

The IEEE U.S. Activities Board presented the 1988 Regional/Divisional Professional Leadership Award to IEEE Orlando Section Fellow member George F. McClure.

THE IEEE POWER ENGINEERING/INDUSTRY
APPLICATIONS SOCIETY
(ORLANDO CHAPTER)

IS PLEASED TO ANNOUNCE

THE POWER SYSTEMS ANALYSIS SEMINAR PROGRAM

Time: 6:30 - 9:00 on Wednesday evenings from April 5, 1989 to May 3, 1989.

Place: 6th floor Conference Room, Orlando Utilities Commission Building, 500 S. Orange Ave. (Corner of Anderson St. and Orange Avenue), Orlando.

Registration Fee: \$100 for IEEE member, \$125 for Non-members (\$25 rebate for non-members who join the IEEE during the course)

Objective: To impart an understanding of the basic tools of power system analysis and protection to engineers and technicians who have a need to become familiar with power system equipment. A background in Power Engineering is desirable but not necessary. Instructors will be practicing engineers with local engineering firms, utilities, and manufacturers. A certificate of completion will be awarded at the end of the course.

SCHEDULE

Class	Title	Principal Instructor
1	Introduction to Power Systems Analysis	Jim Pipkin Westinghouse Electric Corp.
2	Per-Unit and Percent	Lon Montgomery Westinghouse Electric Corp.
3	Symmetrical Components and Sequence Diagrams	Ed Lobnitz Tilden Lobnitz and Cooper Engineering, Inc.
4	Short Circuit Studies	Robert Miller R. W. Beck and Associates
5	Practical Power Systems Protection	Gordon Worrall Black and Veatch, Inc.

For further information contact Program Coordinators:

Bob Nelson (R. W. Beck) 422-4911
Luis Ramos (Black and Veatch) 240-9015

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

IEEE ORLANDO EXECUTIVE BOARD

Office	Officer	Business	Home
Chairman	Tom Nelson	843-7030ext. 360	365-6837
Vice Chairman	Dr. G. Keith Huddleston	356-7201	339-0336
Secretary	Jorge Medina	330-5346	260-1676
Treasurer	Dr. Madjid Belkerdid	275-2318	699-4890
Chapters Chairman	Dr. Ali Atashroo	356-3462	539-0465

SOCIETY CHAPTER OFFICERS

Chapter	Chairman	Business	Home
AES	Dr. Robert C. Harney	356-2373	352-6991
AP/MTT	Dr. Christos Christodoulou	281-5831	657-5120
ASSP	David M. King	629-1720	682-1904
COMPUTER	Dr. Narsingh Deo	275-2341	679-6186
COM/VT	Dr. Michael G. Georgiopoulos	281-5338	657-5085
ED/CHMT	Robert Canright	356-2373	352-6991
LEO	Dr. M. G. (Jim) Moharam	658-6833	679-0073
PE/IA	Robert F. Gray	281-3269	699-6098
UFFC	Dr. Sam M. Richie	281-5765	671-2568
Student Branch	Jeff Zuelch		679-8265

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All IEEE members are invited to attend.

The ads/meeting announcements deadline is the 15th of every month. The ads/announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at 330-5306 or called in at 260-1676 or 330-5346.

ADVERTISING RATES

Ad Size (Camera Ready)	1-2 Insertions	3-10 Insertions
1/4 page (4 1/2 X 2)	\$45/issue	\$35/issue
1/3 page (4 1/2 X 2 3/4)	55	45
1/2 page (4 1/2 X 4 1/4)	65	55
2/3 page (4 1/2 X 5 3/4)	75	65
3/4 page (4 1/2 X 6 1/4)	85	75
1 page (4 1/2 X 7 1/2)	100	85
2 pages (4 1/2 X 16)	150	130

Ultrasonics, Ferroelectric and Frequency Control (UFFC)

Topic: "High Speed Multi-Port RF Network Analysis with Greater than 10,000 Frequency Samples and Application to 5-Port SAW Device Measurement"

Speaker: Mr. Clinton Hartman, President of Hartman Research, Inc. which he founded in 1985. From 1979 to 1985 he served as CEO and Chief Scientist at RF Monolithics, Inc. He was at Texas Instruments from 1969 to 1979 where he was a Research Fellow. While at TI he managed the SAW Research Branch in TI's Central Research Laboratories. Mr. Hartman holds more than 30 U.S. patents including the fundamental patents on the 3-Phase low-loss filter, the SAW resonator, and the Single Phase Unidirectional Transducer. He has published approximately 40 technical papers and received numerous awards for his technological achievements.

Abstract: A large project for experimentally measuring the properties of several hundred SAW Single Phase Unidirectional Transducers (SPUDT) has been undertaken. The test structures comprise a 5-port test device. To determine the desired SAW SPUDT properties, it is necessary to measure all elements in a 5-port description at a minimum of 8192 frequencies. The available equipment is an HP 8753A 2-port network analyzer which can measure a maximum of 401 frequency points when performing a calibrated 2-port measurement. This talk will discuss (a) how the frequency point limitation of the analyzer was overcome by moving all calibration and error correction to an external computer; (b) how an accurate 5-port Z-matrix description is obtained; (c) how the 5-port description can be used to experimentally determine an accurate 3-port model of the test transducer; (d) how high overall measurement speed was achieved for a total of 327,680 measurements for each test structure.

Date: Tuesday, April 18, 1989

Time: 6:00 P.M.

Location: UCF CEBA-I Engineering Building Room 456

Contact: Dr. Sam M. Richie at 281-5765 or Raymond Yap at 886-8860

Antennas & Propagation/Microwave Theory & Techniques (AP/MT)

Topic: "Material Measurements Using Network Analyzers"

Speaker: Phillip Bartley, Innovative Measurement Solutions

Date: April 20, 1989 **Time:** 5:30 P.M. refreshments, 6:00 P.M. Meeting

Location: Hewlett Packard, 6177 Lake Ellenor Drive, Orlando

Contact: For more information call Dr. Christos Christodoulou at 281-5831

Communications/Vehicular Technology (COM/VT)

Topic: "Packet Error Probability in Direct Sequence Spread Spectrum Packet Radio Networks"

Speaker: Dr. Michael G. Georgiopoulos

Date: April 20, 1989

Time: 6:00 P.M.

Location: UCF CEBA Room 122

Contact: For more information call Dr. Michael Georgiopoulos at 281-5338

STATE-OF-THE-ART ENGINEERING . . .

Opportunities

At Emerson Electric Co.
in Orlando, Florida!

Fortune 50 EMERSON ELECTRIC's Government and Defense Group is a recognized world leader in the design, manufacturing and support of state-of-the-art electronic systems and components. Due to our increased business, and continued growth, we're currently seeking innovative, knowledgeable engineering professionals, possessing solid communications skills, for challenging opportunities at our new facility in the Orlando, Florida area. These positions are as follows:



MANUFACTURING ENGINEERS: A BSME/IE/EE, and 3-5 years of experience involving industrial applications of electronic assembly techniques are a must. Thorough understanding of MIL-SPECS/Standards and comprehensive "hands-on" knowledge of state-of-the-art and complex printed circuit boards, cable fabrication, and other sub-assembly processes are essential.



QUALITY ENGINEERS: Duties include the review of contractual requirements; preparation of QA instructions and specifications for MIL-Q-9858A requirements; involvement with developmental work and existing manufacturing contracts, procedures and conformance through internal quality auditing methods. A BSIE/EE/ME, and 3-5 years of experience involving both sub and final assembly processes are preferred.



TEST ENGINEERS: You will develop software programs, test fixtures, and test procedures for in-circuit and functional testing requirements for production hardware. A BSET/EE with hands-on production testing experience preferred.

Take advantage of this outstanding opportunity to join our growing team of industry leading professionals in our state-of-the-art technical environment. Share in our concept of employee participation, and maximize your professional potential. For prompt consideration, send your resume and salary requirements in confidence to: **Emerson Electric Co., Attn: Personnel, 1201 Silver Lake Drive, Sanford, FL 32773.**



ELECTRONICS AND
SPACE DIVISION

Equal Opportunity Employer
U.S. Citizenship Required

IEEE



The

**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 11

CIRCULATION 1250

MAY 1989

COMPUTER SOCIETY

is pleased to announce
a Video Tutorial on Artificial Intelligence Application

ExProbe: Expert Diagnostic Tool

Time: 6:00 P.M. to 7:00 P.M. on Wednesday May 24, 1989.

Place: Emerson Electric Co. Board Room, 1201 Silver Lake Road (two blocks east of S.R. 427 and Lake Mary Blvd.), Sanford.

Registration Fee: \$5.00 for IEEE members, \$7.00 for Non-members, (\$2.00 rebate for non-members who join the IEEE during the tutorial). Mail registration fee to: IEEE Orlando Section, P.O. Box 521917, Longwood, FL 32750 (Include membership number).

Audience: This presentation will benefit those who have interest in the practical aspects of applying the expert system technology in diagnostic areas.

Tutorial: In this fifty-five minute video presentation, Mr. J. Max Cortner from Unisys Corporation, provides an insight into the issues which confront many expert system developers. Both the decision making process and the design and implementation choices are reviewed for the Digital Logic Trouble Shooting System: ExProbe. The issues involving hardware, software, and training are presented and discussed. Presentation handout material will be furnished. Following the tutorial elections for new officers will be held.

For more information contact: Jorge Medina, 330-5346, Deborah Koscielski, 330-5309, or Elsa Delgado, 330-5328.

Registration Deadline is Monday, May 22. (U.S. Citizens Only)

CHAIRMAN'S CORNER

May 1989

The Orlando Chapter of the Power Engineering/Industry Applications Society had an overwhelming response to its Power Systems Analysis Seminar. The level of interest surprised even the seminar's organizers. PE/IE has enjoyed a renaissance in the last several years because of the leadership, dedication and inspiration of its Past and Present Chairmen, Mike Haddad and Bob Gray. They have demonstrated what can be done to provide interesting programs and activities for the membership. Many thanks to them and all those who made it happen.

It is the responsibility of the Chapter Chairman to provide the leadership and organize Chapter activities and programs. If you have some ideas for activities or programs you would like to see, or perhaps organize, contact your Chapter Chairman. A list with telephone numbers appears in every issue of the Section Monthly.

The new officers will be installed at the Annual Installation Meeting of the Section to be held in June. The next Executive Committee meeting is scheduled for May 2nd at Automation Intelligence at 5:30 P.M. There will be some snacks to help the hunger pangs. Come join us!

Tom Nelson

Orlando Section Chairman

Acoustics, Speech and Signal Processing (ASSP)

Topic: "Signal Processing for Advanced Electro-Optic Systems"

Speaker: Mr. Charly Layne. He has thirty years of experience in the Electro-Optics field and he recently completed a trip to Japan where he taught a course on the subject to Japanese engineers.

Date: May 11, 1989

Time: Election for new officers at 5:00 P.M. Refreshments will be served.

Technical meeting at 5:30 P.M.

Location: Martin Marietta ESC, (ESC) Executive Conference Room (just off the main lobby)

Contact: For more information call David King at 356-9667

POWER ENGINEERING SOCIETY/
INDUSTRY APPLICATIONS SOCIETY
(PE/IA)

*EVERYTHING YOU WANTED TO KNOW
ABOUT
THE DESIGN, MANUFACTURE AND TESTING OF POWER CABLE*

Program: Our program will focus on a critical power system component - POWER CABLE. Our program will begin with a short history of the development of cable insulating materials. It will describe the advantages and limitations of the different insulating and jacketing materials that are used in today's cable and will illustrate how cable is manufactured. It will cover shielding and its impact on performance and operation, and will explain the purpose and execution of commonly specified tests. Discussion will center on power cable in the 5 to 35 kV range, although higher voltages will also be addressed.

Speaker: Our speaker is Gene Hibbard, Assistant Manager of Cable Applications and Standards for the Kerite Company. He has been active in power cable engineering since 1962 and has been involved in the full range of design, manufacturing, testing, installation, sales and customer service activities. He is a member of the IEEE Industry Applications Society and the Insulated Cable Engineer's Association.

Date: Tuesday, May 23, 1989

Time: Dinner 6:00 PM, Technical Presentation 7:15 PM

Place: Gary's Duck Inn

3974 South Orange Blossom Trail; located 6 blocks south of I-4 at 39th Street and Rt. 441 (SOBT).

Reservations: Required for both the dinner and presentation. Please call Richard Chruszcz, 824-4953, Jim Pipkin, 281-2916 or Bob Gray, 281-3269.

RESERVATION DEADLINE IS FRIDAY, MAY 19.

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION

U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

IEEE ORLANDO EXECUTIVE BOARD

Office	Officer	Business	Home
Chairman	Tom Nelson	843-7030 ^{ext. 360}	365-6837
Vice Chairman	Dr. G. Keith Huddleston	356-7201	339-0336
Secretary	Jorge Medina	330-5346	260-1676
Treasurer	Dr. Madjid Belkerdid	275-2318	699-4890
Chapters Chairman	Dr. Ali Atashroo	356-3462	539-0465

SOCIETY CHAPTER OFFICERS

Chapter	Chairman	Business	Home
AES	Dr. Robert C. Harney	356-2373	352-6991
AP/MTT	Dr. Christos Christodoulou	281-5831	657-5120
ASSP	David M. King	356-9667	628-4462
COMPUTER	Dr. Narsingh Deo	275-2341	679-6186
COM/VT	Dr. Michael G. Georgiopoulos	281-5338	657-5085
ED/CHMT	Robert Canright	356-2373	352-6991
LEO	Dr. M. G. (Jim) Moharam	658-6833	679-0073
PE/IA	Robert F. Gray	281-3269	699-6098
UFFC	Sam M. Richie	281-5765	671-2568
Student Branch	Jeff Zuelch		679-8265

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All IEEE members are invited to attend.

The ads/meeting announcements deadline is the 15th of every month. The ads/announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at 330-5306 or called in at 260-1676 or 330-5346.

ADVERTISING RATES

Ad Size (Camera Ready)	1-2 Insertions	3-10 Insertions
1/4 page (4 1/2 X 2)	\$45/issue	\$35/issue
1/3 page (4 1/2 X 2 3/4)	55	45
1/2 page (4 1/2 X 4 1/4)	65	55
2/3 page (4 1/2 X 5 3/4)	75	65
3/4 page (4 1/2 X 6 1/4)	85	75
1 page (4 1/2 X 7 1/2)	100	85
2 pages (4 1/2 X 16)	150	130

IEEE



The

**ORLANDO SECTION
MONTHLY**

VOLUME XXII
NUMBER 12

CIRCULATION 1250

JUNE 1989

**IEEE ORLANDO
1989 Annual Installation Meeting**

Sheraton-Maitland
600 Lake Destiny Road in the Maitland Center near I-4

Saturday June 17, 1989

Cash Bar at 6:30 P.M.
Four Course Dinner at 7:30 P.M.
\$22.00 Per Person

Invited speaker

Mr. George F. McClure

Vice Chairman of the IEEE Pension Committee and
President of the Vehicular Technology Society

"ORCHESTRATING YOUR RETIREMENT"

How can you plan for financial security in retirement? What are the prospects for portable pensions to protect the engineer who cannot stay with one employer throughout his/her career? These questions are answered in the talk featured at our June meeting. Retirement funds typically come from three sources: pensions, Social Security, and investment income. Based on your retirement plans, you can project the investment requirements your savings plan must meet after estimating inflation rates, interest rates, pension and Social Security income. A checklist to do this is presented. Pension portability was helped by the IRA and the 401(k) plan, but is lacking in most defined benefit pension plans. A new "Cash Balance" pension plan is described that does achieve pension portability for the working engineer.

For Reservations, Contact Tom Nelson at (407) 843-7030

CHAIRMAN'S CORNER

June 1989

The new officers will be installed at the Annual Installation Meeting of the Section to be held on Saturday June 17 at the Sheraton-Maitland. It is located at 600 Lake Destiny Road in the Maitland Center near I-4. Activities begin at 6:30 P.M. with a Cash Bar followed by a four course at 7:30 P.M. Our speaker will be George F. McClure, currently Vice Chairman of the IEEE Pension Committee and President of the Vehicular Technology Society. The subject is "ORCHESTRATING YOUR RETIREMENT." The cost is \$22.00 per person. Reservations are required and can be made by contacting me at (407) 843-7030 during normal business hours. In addition, there will be Chapter awards and a presentation of the Region 3 Outstanding Engineer Award to Dr. Smythe. Please join us.

The Voice Information Center is now functioning. There were some hardware problems initially which should be resolved by the date of this publication. You can try it out by calling (407) 366-7594. For additional information attend the next Executive Committee meeting which is scheduled for June 6th at Automation Intelligence at 5:30 P.M. There will be some snacks to help the hunger pangs. Come join us!

Tom Nelson

Orlando Section Chairman

ORCHESTRATING YOUR RETIREMENT

The Speaker: Mr. George F. McClure

A program engineer at Martin Marietta, George McClure is currently vice chairman of the IEEE Pension Committee and former PACE Coordinator for Region 3. He received an outstanding leadership award for the videotape he produced while PACE Coordinator, "The Impact of the Tax Reform Act of 1986 on the Working Engineer," based on his talk at the 1987 PACE Conference. "Orchestrating Your Retirement" was his presentation at the 1988 PACE Conference. He will conduct a workshop on pension portability issues at the 1989 PACE Conference. He is also president of the Vehicular Technology Society and a member of the ad hoc committee of the Technical Activities Board addressing chapter development improvements.

POWER ENGINEERING SOCIETY/
INDUSTRY APPLICATIONS SOCIETY
(PE/IA)

**RECENT DEVELOPMENTS
IN PROGRAMMABLE CONTROLLERS**

Program: Programmable controllers have become increasingly sophisticated in recent years, appearing in applications as diverse as SCADA, process control and energy management. Our presentation will review the evolution of these devices and describe today's state-of-the-art programmable controller and its application.

Speaker: Mr. Scott Hauser, Area Manager of Solid State Logic Devices for Allen-Bradley, will be our speaker. Mr. Hauser holds a degree in Applied Mathematics and Industrial Technology from the University of Wisconsin and has worked for Allen-Bradley as both a Field Technical Inspector and as a Field Application Engineer for programmable controllers. He is currently responsible for marketing of AB programmable controllers in Florida and Georgia.

Date: Tuesday, June 27, 1989

Time: Dinner 6:00 PM, Technical Presentation 7:15 PM

Place: Barney's Steak & Seafood House, 1615 East Colonial Drive

Reservations: Required for both the dinner and presentation. Please call Jim Pipkin, 281-2916, Richard Chruszcz, 824-4953, or Bob Gray, 281-3269.

RESERVATION DEADLINE IS FRIDAY, JUNE 23.

COMPUTER SOCIETY

is pleased to announce a Video Tutorial

***Application of Artificial Intelligence
to the VLSI Test Generation***

Audience: This lecture will benefit those who have an interest in the application of AI in diagnostic areas.

Tutorial: The main topic of this two hour presentation is the application of Artificial Intelligence to the VLSI design automation problem of test generation. A new test generation algorithm (P-algorithm) for both the combinational and the synchronous circuits was proposed and the AI strategy adopted for its implementation using the Interactive Theorem Prover (ITP) developed for a Logic Machine Architecture (LMA). Course handbook will be available.

Place: Emerson Electric Company., Board Room, 1201 Silver Lake Road (two blocks east of State Road 427 and Lake Mary Blvd.), Sanford.

Time: 6:00 P.M. to 8:00 P.M. on Wednesday June 21, 1989.

Reservations: Required for video tutorial. Please call Jorge Medina, 330-5346, Deborah Koscielski, 330-5309, or Elsa Delgado, 330-5328.

Reservation Deadline is Monday, June 19. (U.S.A. Citizens Only)

Institute of Electrical and Electronics Engineers

P.O. Box 521917
Longwood, FL 32752-1917

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
ORLANDO, FLORIDA
PERMIT NO. 3492

TIME SENSITIVE MAIL

IEEE ORLANDO EXECUTIVE BOARD

Office	Officer	Business	Home
Chairman	Tom Nelson	843-7030 _{ext. 360}	365-6837
Vice Chairman	Dr. G. Keith Huddleston	356-7201	339-0336
Secretary	Jorge Medina	330-5346	260-1676
Treasurer	Dr. Madjid Belkerdid	275-2318	699-4890
Chapters Chairman	Dr. Ali Atashroo	356-3462	539-0465

SOCIETY CHAPTER OFFICERS

Chapter	Chairman	Business	Home
AES	Dr. Robert C. Harney	356-2373	352-6991
AP/MTT	Dr. Christos Christodoulou	281-5831	657-5120
ASSP	David M. King	356-9667	628-4462
COMPUTER	Dr. Narsingh Deo	275-2341	679-6186
COM/VT	Dr. Michael G. Georgiopoulos	281-5338	657-5085
ED/CHMT	Robert Canright	356-2373	352-6991
LEO	Dr. M. G. (Jim) Moharam	658-6833	679-0073
PE/IA	Robert F. Gray	281-3269	699-6098
UFFC	Sam M. Richie	281-5765	671-2568
Student Branch	Jeff Zuelch		679-8265

Voice Information Center (407) 366-7594

The Executive Committee meets on the first Tuesday of each month at 5:30 pm. The location is Automation Intelligence, 1200 W. Colonial Dr., Orlando. All IEEE members are invited to attend.

The ads/meeting announcements deadline is the 15th of every month. The ads/announcements can be mailed to P.O. Box 521917, Longwood, FL 32752-1917, sent via Fax at 330-5306 or called in at 260-1676 or 330-5346.

ADVERTISING RATES

Ad Size (Camera Ready)	1-2 Insertions	3-10 Insertions
1/4 page (4 1/2 X 2)	\$45/issue	\$35/issue
1/3 page (4 1/2 X 2 3/4)	55	45
1/2 page (4 1/2 X 4 1/4)	65	55
2/3 page (4 1/2 X 5 3/4)	75	65
3/4 page (4 1/2 X 6 1/4)	85	75
1 page (4 1/2 X 7 1/2)	100	85
2 pages (4 1/2 X 16)	150	130