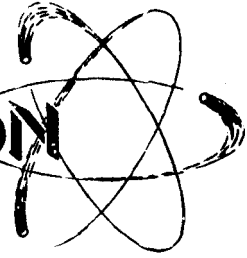


The Charlotte Electron was published nine times during the calendar year of 1980 under the editorship of Carol B. Mullis. More than 5000 copies were mailed to Charlotte Section Members.

Carol B. Mullis  
Editor



## THE CHARLOTTE ELECTRON



JANUARY, 1980

C. B. Mullis, Editor

### MEETINGS

#### CHARLOTTE SECTION

DATE: Monday, January 14, 1979  
TIME: 7:30 pm  
PLACE: Electric Center, Duke Power Company - O. J. Miller Auditorium  
SPEAKER: Mr. Frank A. Jenkins, Vice President Transmission  
Duke Power Company

#### NEW MEMBER RECRUITMENT NIGHT

Mr. Jenkins will highlight the many opportunities membership in the IEEE provides. In addition, our Membership Development Chairman, Steve Whisenant will be on hand to assist those wishing to join. Every section member is on Steve's committee and we urge you to personally invite anyone interested in IEEE affiliation.

Frank Jenkins of Charlotte, NC, a native North Carolinian, graduated with honors from N. C. State University in 1941 and had further advanced work in General Electric Company's engineering training program. He served four years with the U. S. Army during World War II, and was released from active duty in 1946 with the rank of Major.

Mr. Jenkins joined Duke Power Company in April 1946 in the Transmission Engineering Dept. and has had experience in all levels of transmission and substation design. Subsequent progressions have been from Transmission Line Engineer in 1952 to Vice President, Transmission.

He is active in industry committees and technical society work on electric power transmission and distribution matters of Southeastern Electric Exchange, IEEE-PES, Edison Electric Institute, a member of CIGRE, a Fellow, IEEE, and he is a registered Professional Engineer in North and South Carolina.

(Information on back of this page)

NEXT MEETING: February 22, 1978, Joint Engineering Dinner Meeting; Wagoner Hall  
Holiday Inn, 3815 N. Tryon Street      Social Hour 6:30 pm    Dinner 7:30 pm

#### POWER ENGINEERING SOCIETY

DATE: January 21, 1980  
TIME: 7:30 pm  
PLACE: Duke Power Company, O. J. Miller Auditorium (Electric Center)  
PROGRAM: Power Plant Modeling  
SPEAKER: Robbie Kayton

Mr. Kayton spent the first seven years of his career employed in piping design at Newport News Ship Building and Drydock Co. He has been employed by Duke Power Co. in the Mechanical/Nuclear Division of Design Engineering Dept. since 1971, where his experience includes piping design, plant modeling, and computerized isometrics. Robbie is presently responsible for piping designer training in the Mechanical/Nuclear Division, and serves on the Board of Directors for the American Engineering Model Society.

ANNOUNCEMENT

JOINT ENGINEERING DINNER MEETING

in celebration of

NATIONAL ENGINEERS' WEEK

*Bring your spouse, meet new friends,  
and celebrate our week!*

Friday, February 22, 1980  
Holiday Inn, Wagoner Hall  
3815 North Tryon Street

\$8.50 per person  
(\$1.00 discount prior to Jan 1)  
Social Hour 6:30 pm  
Dinner 7:30 pm

Program: The Walter E. Norem Presentation

By: Jerome F. Svigals  
Project Administrator  
Electronic Funds Transfer Systems  
IBM Corporation

*"SOLVING THE TECHNICAL AND HUMAN FACTORS PROBLEMS  
OF SELF-SERVICE BANKING"*

Self-service banking terminals are rapidly becoming part of our landscape and in bank offices, in free-standing kiosks at shopping centers. They form one of the most common points of direct contact between people and computers. They also pose a number of interesting engineering problems - technical and human.

What were the pressures on the banking industry that prompted the development of these systems? What has been the evolution of electronic banking?

How did the banking and computer industries successfully achieve consumer operations and acceptance of self-service automatic teller systems?

What trends can we project over the next decade for electronic banking and other consumer-oriented systems?

TICKETS ARE NOW AVAILABLE FROM YOUR SOCIETY.

BUY YOURS BEFORE JANUARY 1 AND SAVE MONEY!

## Executive Committee 1980

Chairman	David C. Fleming	Alcoa	527-6210
1st Vice Chairman	Carl G. Leonard	Duke Power Co.	373-4217
2nd Vice Chairman	C. Michael Allen	UNCC	597-2302
Secretary	James Carmichael	Southern Bell	378-8331
Treasurer	Sema Yildirim	Duke Power Co.	373-7198
Directors	David Jones	Southern Bell	378-8558
	Fred Kimsey	Duke Power Co.	373-8394
	Jaclyn Spear	Westinghouse	875-6123
	Roscoe White	Duke Power Co.	373-5272

### Committee Chairman

Archives	K. P. Lau	Duke Power Co.	373-4244
Arrangements	Harold T. Walker	Duke Power Co.	373-8167
Attendance	Gene Chapman	Duke Power Co.	373-4326
Audit	Dan L. Pearman	Duke Power Co.	373-4081
Awards	Dr. Burton H. Wayne	UNCC	597-2302
Education	Keith Klontz	Duke Power Co.	373-8462
Fellowship	Luis Lecaros	Duke Power Co.	373-8739
Membership Developmt.	Steve Whisenant	Duke Power Co.	373-5065
Nominating	Duncan D. McDuffie	Southern Bell	378-8005
	Dan L. Pearman	Duke Power Co.	373-4081
	K. P. Lau	Duke Power Co.	373-4244
Picnic			
Professional Actv.	Kenneth R. Caraway	Duke Power Co.	373-8349
Publicity	Doug W. Vass	Duke Power Co.	373-5945
Publication	Carol B. Mullis	Duke Power Co.	373-4529
Student Activities	Ed. Jenkins Jr.	Jenkins Electric	392-7371
Advisor	Ben Martin	3801 Arbor Way	366-1248
UNCC	Dr. Burton H. Wayne	UNCC	597-2302
CPCC	Ed. Jenkins, Jr.	Jenkins Electric	392-7371
Gaston Tech	Art Gannon	Update, Inc	366-4255

### Communications Society

Chairman	Grace Phillips	Southern Bell	378-8693
Vice Chairman	Roger Helton	Southern Bell	378-7149
Secretary-Treasurer	J. Randy Cook	Southern Bell	378-8523

### Power Engineering Society

Chairman	Bijan Neshat	Duke Power Co.	373-5340
Vice Chairman	Robert Moore	Duke Power Co.	373-4618
Secretary-Treasurer	John F. Criss	Duke Power Co.	373-8294

### N. C. Council Activities

25th Annual Symposium			
Co-Chairman	Jim Blankenship	IBM	598-2102
Co-Chairman	Ray Waltman	Duke Power Co.	373-4709
Career Guidance	Ben Martin	3801 Arbor Way	366-1248

COMMUNICATIONS SOCIETY

The January meeting of the Communications Society will be held January 28, 1980 at Morrison's Cafeteria - South Park with the following schedule:

6:30 PM - Dinner (Go through line)  
7:30 PM - Presentation - "Parapsychology: ESP and Psychokinesis"

The program will be presented by Ms. Debra Weiner, a Research Fellow at the Institute of Parapsychology located in Durham, N. C. In her three years with the Institute, she has done extensive research in Psychokinesis (The creation of motion through the use of psychic powers), as well as in ESP and the testing theories of both.

The program will be a general introduction to Parapsychology including ESP experiences. It will include a demonstration of testing facilities, methods, and other interesting aspects of these phenomena.

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We would like to thank the following companies for providing the social hour and door prizes for the annual banquet: General Electric Company, Gould-Brown Boveri, Polytech Services, Inc., Siemens-Allis, Square D, Westinghouse Electric Corp., Aloca Conductor Products Co., R. W. Chapman Co., McGraw Edison Co. Their contributions helped make the evening more enjoyable.

H. T. Walker

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ATTENTION CPCC AND UNCC ALUMNI

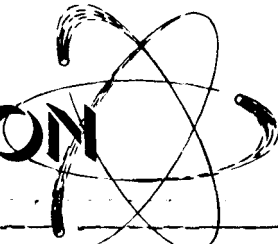
The Section is looking for members willing to work in liaison with the Student Branches at CPCC and UNCC. This task involves occasionally meeting with the branch adviser, and with the branch, discussing the IEEE with them and bringing their needs to the attention of the Section Board.

If you are willing to support your school in this way, please contact Burt Wayne at UNCC (597-2302), Ronald Byles at CPCC (373-6648) or Edward Jenkins at Jenkins Electric (392-7371).

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THE CHARLOTTE ELECTRON



FEBRUARY, 1980

C. B. MULLIS, EDITOR

ANNOUNCEMENT  
JOINT ENGINEERING DINNER MEETING  
in celebration of  
NATIONAL ENGINEERS' WEEK

*Bring your spouse, meet new friends, and  
celebrate our week!*

Friday, February 22, 1980  
Holiday Inn, Wagoner Hall  
3815 North Tryon Street

\$8.50 per person

Social Hour 6:30 pm  
Dinner 7:30 pm

Program: The Walter E. Norem Presentation

By: Jerome F. Svigals  
Project Administrator  
Electronic Funds Transfer Systems  
IBM Corporation

"SOLVING THE TECHNICAL AND HUMAN FACTORS PROBLEMS  
OF SELF-SERVICE BANKING"

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How did the banking and computer industries successfully achieve consumer operations and acceptance of self-service automatic teller systems?

What trends can we project over the next decade for electronic banking and other consumer-oriented systems?

TICKETS ARE NOW AVAILABLE FROM YOUR SOCIETY.

COMMUNICATIONS SOCIETY

DATE: February 25, 1980      SPEAKER: To be announced  
TIME: 6:30 pm (Go through the line)  
7:30 pm Program  
PLACE: Morrison's Cafeteria at South Park

POWER ENGINEERING SOCIETY

DATE: February 19, 1980

Place: Duke Power Company, O. J. Miller Auditorium - Electric Center

Time: 7:30 pm

Program: "Report to Stockholders"

Speaker: Mr. Duran McDonald

Mr. McDonald received his BS degree in Business Administration from UNC in 1963 and his MBA from the University of Georgia in 1969. He served four years in the United States Navy where he earned the rank of Lieutenant JG.

He has actively been employed in the investment business since 1969, and presently works for Merrill Lynch Pierce Fenner & Smith, Inc. where he is to be manager of that company's new Southpart office later this year.

Mr. McDonald is presently a Commander in the US Naval Reserve. His program entitled "Report to Stockholders" will explain the role of the US Navy in the modern world, and will include a comparison of the US & USSR Navy's missions, firepower and manpower.

Please plan to come to hear this timely discussion.

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WANTED: Engineer interested in designing commercial electronics products for the industrial market.

This is a challenging opportunity and a position with high potential for growth.

Minimum qualifications, BS in Electrical Engineering or Physics, or solid background in analog and digital control circuit design.

Applicant should have expertise in analog signal conditioning and simple transducer and control circuit design using discrete components, operational amplifiers and other analog integrated circuit modules. (Frequencies DC to 1 megacycle mHz.)

Design will involve interfacing electronics with mechanical and solid state relays in electrically noisy industrial environments. Job also requires some experience in digital design for industrial control, using CMOS and other high noise immunity digital logic.

Any experience in antenna design and/or microprocessor applications is a plus.

When replying, state preferred location: Miami, Atlanta, or Charlotte.

Address replies to: Executive Engineering, P. O. Box 26475,  
Charlotte, N. C. 28213

## UPGRADE TO SENIOR MEMBER! WHO, ME?

Are you one of those modest engineers who doesn't feel that your work accomplishments are as significant as they really are? When was the last time you took stock in yourself and your work? A quick review could indicate that you have accomplished quite a lot in the past several years. If so, you belong in the Senior Member grade of IEEE.

What does Senior Member grade really mean? It is the highest professional grade for which application may be made. It reflects professional maturity.

Why should you seek Senior Member grade? It allows a person to take stock in himself and to say to others, "I have made contributions as an engineer". Senior Member grade offers privileges Member grade does not - you must be a Senior Member to become a Fellow; in order to hold certain regional and directorship offices, you must be a Senior; and some professional organizations require Senior or Fellow standing to join them.

What are the requirements of Senior Member grade? First you must have been in active professional practice for ten years. This ten-year experience requirement does offer credit for educational achievement, three years for BS degree, and 1 additional year for each advanced degree of Masters or Ph.D. The next requirement is that you must obtain references from three Fellow or Senior members.

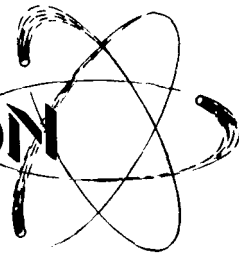
The application form has been condensed in an effort to reduce the time required to complete the form. Senior Membership costs no more, and it officially recognizes your contributions to engineering. All you have to do is apply NOW!

To obtain additional information or a Senior grade application form, please contact Steven Whisenant at 373-5065.





THE CHARLOTTE ELECTRON



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MARCH, 1980

C. B. MULLIS, EDITOR

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MEETINGS

CHARLOTTE SECTION

Date: Monday, March 10, 1980  
Place: Duke Power Company Electric Center (New Building)  
O. J. Miller Auditorium - Enter the Employee Parking  
Lot from Mint Street, enter building from the parking lot,  
take elevator to First Floor.  
Time: 7:30 pm  
Program: "Shared Clinical Engineering in the Carolinas"

Mr. Harry S. Whitesides of Carolina Hospital and Health Services, Inc. will be the guest speaker. The talk will cover the plant aspects of clinical engineering and biomedical equipment.

Mr. Whitesides is a native of Chester, S. C. and a graduate of Clemson University with a BSEE Degree.

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POWER ENGINEERING SOCIETY

The PES Meeting for March was scheduled to be a tour of Florida Steel Company's electric arc furnaces. However, due to a conflict on our regular meeting night with the Charlotte Engineers' Club Ladies Night Banquet, the PES regular meeting will be combined with the Charlotte Section meeting, and the arc furnace tour postponed till a later date.

Please refer to Section Meeting description in the Electron for further details of the program.

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COMMUNICATIONS SOCIETY

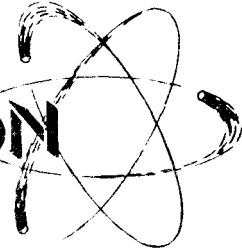
Date: March 24, 1980  
Time: 6:30 pm  
Place: Morrison's at South Park - Go through the line  
Program: Applications of Lasers for Mechanical Measurements  
Speaker: Mr. T. D. Dudderer of Bell Laboratories

# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Charlotte Section



## CHARLOTTE ELECTRON



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APRIL, 1980

CAROL MULLIS, EDITOR

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### MEETINGS

#### SECTION

DATE: Tuesday, April 22, 1980  
PLACE: Smith Building at UNCC, Room 102  
TIME: 7:30 pm  
PROGRAM: Student Papers Contest

Enter main gate, turn left and park under parking deck. UNCC will furnish tokens to get out. Students will be on hand to provide guidance to Smith Building.

---

#### POWER ENGINEERING SOCIETY

DATE: Monday, April 21, 1980  
PLACE: Park Road S & W Cafeteria  
TIME: 5:15 - 6:00 pm Social Hour  
6:00 - 7:00 pm Dinner  
7:00 pm Program  
PROGRAM: "Nuclear Standby Diesel Generator Testing"  
SPEAKER: Mr. Dean W. Wolfe  
Transamerica Delaval, Oakland, California

Mr. Wolfe will be discussing the process of designing and testing diesel generators used in nuclear standby service. His program will cover generator sizing criteria, NRC requirements, factory testing, and onsite assembly and preoperational testing.

Mr. Wolfe has been employed by Transamerica Delaval for 3 years, where as a quality engineer he was responsible for documentation and witnessing of diesel generator testing. He is presently an application engineer in the company's sales department.

Mr. Wolfe received a BSME from California Polytechnical University in 1970. His experience includes service as a US Navy nuclear test engineer on submarine reactors, a nuclear plant consulting engineer in areas of QA training and test procedures, and work on the refueling overhaul and backfitting of the San Onofre Unit 1 Nuclear Station.

Please come and bring a friend to hear this interesting talk.

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# CITE UPDATE

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ENERGY AND THE ENVIRONMENT

BY

DR MARGARET MAXEY  
RAINTREE COUNTRY CLUB

EARTH DAY - APRIL 22, 1980

6:30 PM Social (Cash Bar)

7:30 PM Dinner

Citizens for Total Energy invites you to join us at Raintree for a special Earth Day program featuring Dr Margaret Maxey. She will address the comparative environmental impacts of various energy resources and their fuel cycles.

Dr Maxey is currently Assistant Director of the South Carolina Energy Research Institute. Prior to her appointment, she was Associate Professor of Bioethics at the University of Detroit. She was appointed to the Faculty of Arts and Sciences in 1970 where she was engaged in directing student programs and research at both graduate and undergraduate levels. She has also been Assistant Professor of Philosophy and Religion at Barat College, Lake Forest, Illinois.

Dr Maxey has been an ethical consultant for the National Council of Churches. She is currently a consultant for Lawrence Livermore Laboratory, Livermore, California, on the question of nuclear waste disposal.

Dr Maxey received her BA degree in philosophy at the Creighton University, Omaha; an MA degree in philosophy (1963) at St Louis University, and a second MA degree in systematic theology (1967) at the University of San Francisco. Her PhD degree in Christian Ethics was completed at Union Theological Seminary, New York, in 1971. She is a member of the American Society of Christian Ethics; the Institute on Religion in an Age of Science; the Institute of Society, Ethics, and the Life Sciences; the American Association for the Advancement of Science; and the American Nuclear Society.

To make reservations, please phone Sandy Foy at 373-8014. The cost is \$7.50 per person for those making reservations before April 11. After that date the cost will be \$9 per person. Please make checks payable to Citizens for Total Energy.

  
Greg Bendall  
President

3-14-80

COMMUNICATIONS SOCIETY

DATE: Monday, April 28  
PLACE: Park Abbey, 4600 Park Road  
TIME: 7 pm  
PROGRAM: Data Applications and Communications  
SPEAKER: Mrs. Diane Taylor

---

We are trying to make available copies of the group picture of the attendees of the 1979 IEEE 50th Anniversary Meeting that was held at the UNCC campus last April 20th.

We plan to have either an 8" x 10" color print or an 11" x 14" color print complete with a shadow-graph identification chart for those of you who are interested. We cannot give an exact cost figure for the package until we know the approximate number of prints needed. The estimated cost should be about \$5.00.

If you are interested in obtaining this picture combination for about \$5.00, please fill out the form below and mail to:

Roscoe White, Jr.  
Duke Power Company  
P. O. Box 33189  
Charlotte, N. C. 28242

or call Roscoe at 373-5272.

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IEEE Group Color Picture:

Would prefer size 8" x 10" \_\_\_\_\_ (Quantity)  
Would prefer size 11" x 14" \_\_\_\_\_ (Quantity)

Name \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

I am willing to pay cost of approximately \$5.00 per package upon receipt of each picture package \_\_\_\_\_ (✓).



The tour will be conducted by Mr. Bill Root, Physicist with Memorial Hospital and Mr. Adrian Oliver of Varian Corp.

Directions: Enter Emergency Room driveway. Tell the guard you are there for the tour and he will direct you to a parking log. Enter the hospital through the admitting entrance. The conductors will meet you there.

---

ATTENTION!!

The PES June field trip has been changed. We will now go by bus to the Florida Steel Plant on Lakeview Road and then proceed to the Hungry Fisherman for a splendid meal complete with your favorite beverage. This will all take place on Thursday, June 19, and will be offered to PES members for a LOW low charge. Details will be announced at the May meeting, so mark your calendars now. Capacity is limited and tickets will be available on a first-come first-served basis.

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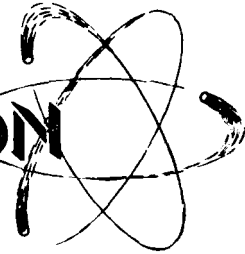
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# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Charlotte Section



## CHARLOTTE ELECTRON



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SEPTEMBER, 1980

C. B. Mullis, Editor

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### SECTION - POWER ENGINEERING SOCIETY JOINT MEETING

Date: Monday, September 15, 1980  
Place: Duke Power Co., O. J. Miller Auditorium - Electric Center  
Time: 7:30 pm  
Program: "Clemson/U. S. Dept. of Agriculture Solar Energy  
Demonstration Houses"  
Speaker: Dr. Bud Webb

Dr. Bud Webb is the department head of the Clemson University Department of Agricultural Engineering. He was responsible for a joint project undertaken by Clemson and the USDA to design, construct and evaluate the performance of two solar demonstration houses. One of the houses is a "berm house" located partially below ground level. Both houses contain active solar energy systems. Dr. Webb will present slides of the project to complement his description of the features of these two structures.

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### COMMUNICATIONS SOCIETY

To be announced later.

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The Charlotte Chapter Power Engineering Society's Nominating Committee is pleased to announce nominations for officers for the 1981 year as follows:

Chairman: Robert J. Moore - Duke Power Company, Design Engineering Dept.

Vice Chairman: Sema O. Yildirim - Duke Power Company - System Planning Dept.

Secretary-Treasurer: R. D. Dartnall, General Electric Company

Elections will be held at the October, 1980 PES Meeting and other nominations will be accepted from the floor.

Rec'd 7/15/80

SLATE OF OFFICERS RECOMMENDED BY THE 1980 NOMINATING COMMITTEE:

Chairman:	Carl Leonard - Duke Power Co.	373-4217
1st Vice Chairman	Mike Allen - UNCC	597-2302
2nd Vice Chairman	George Garman - Duke Power Co.	373-8914
Secretary	Jim White - IBM	598-2616
Treasurer:	Grace Phillips - Southern Bell	378-8693
Directors:	Jim Blankenship - IBM	598-2102
	Ken Caraway - Duke Power Co.	373-8349
	Bijan Neshat - Duke Power Co.	373-5340
	Burt Wayne - UNCC	597-2302

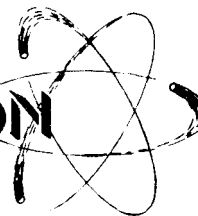


# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

Charlotte Section



## THE CHARLOTTE ELECTRON



OCTOBER, 1980

C. B. Mullis, Editor

### MEETINGS

DATE: Monday, October 13, 1980  
PLACE: S & W Cafeteria - Park Road  
TIME: Social Hour - 5:30 pm  
Dinner - 6:30 pm  
Program - 7:30 pm  
PROGRAM: "Broadcast Engineering as it Pertains to Religious Broadcasters"  
SPEAKERS: Mr. James R. Jupin - Mr. Al Sanderlin

Mr. Jupin is Director of Engineering for the PTL Television Network and will cover the components that make up the PTL Television Network. Mr. Jupin will present slides to complement their presentation.

### POWER ENGINEERING SOCIETY

DATE: Monday, October 20, 1980  
PLACE: Park Road S & W Cafeteria  
TIME: 5:30 pm - Social Hour  
6:15 pm - Dinner  
7:00 pm - Program  
PROGRAM: "Only Fifteen Days to Go!"  
SPEAKER Ms. Barbara A. Simpson

Ms. Simpson is an employee of the Public Affairs Department of Duke Power Company where she serves as Director of Federal Governmental Affairs. She served as a member of the NC Utilities Commission from 1975-1977. Ms. Simpson will present an overview of the national and local public office candidates' statements on energy issues and other matters of particular interest to businessmen.

### COMMUNICATIONS SOCIETY

DATE: Monday, October ~~20~~, 1980  
PLACE: ~~Morrison's Cafeteria~~ at South Park  
TIME: ~~6:30~~ pm - Go through line ~~7~~ 7:30 pm Program  
PROGRAM: Synthetic Sound and Real Music  
SPEAKER: Dr. Robert Moog

Dr. Moog is the inventor of the Moog Synthesizer.

SOUTHCON UPDATE

September 8, 1980

ATLANTA, GA...Southern manufacturers, engineers, and scientists will get a first hand look at the latest developments in the electronics industry when they gather for the Southcon/81, in January of 1981 at the Georgia World Congress Center in Atlanta.

Southcon is two events: a three-day exhibition for manufacturers and suppliers of electronic and electronically related products, systems, and services; and a professional program with presentations on state-of-the-art technology by engineers and scientists directly involved in pure and indirect electronics usage.

Exhibit sales opened in June, and by mid-July, the maximum number of exhibit booth spaces had been sold. When the first Southcon show opens on Tuesday, January 13, 1981, there will be 470 quality electronics exhibits in place, many organized by ERA and IEEE members.

ERA Dixie, Sunshine, and Piedmont Chapters will be co-sponsoring the show with IEEE members of the Region 3 organization, the Atlanta Section, and the Florida Council.

**PROGRAM**

8:00 A.M. Registration - Carolina Foyer, Sheraton Convention Center Exhibition Opens - Governor's Foyer

**Session II-A — ENERGY CONSERVATION**

2:30 P.M.

Session Chairman - G. I.

**OPENING SESSION**

9:00 A.M. - 9:45 A.M.

- Greetings ..... R. H. Waltman, Duke Power  
J. D. Blankenship, IBM  
General Chairmen NCSE '80
- Keynote Address on Conference Theme ..... Mr. Frank Jenkins, Vice President Transmission  
Duke Power, Charlotte, North Carolina
- Preface to the Program Sessions ..... J. M. White, IBM  
Program Chairman
- Ladies' Program Kickoff Meeting ..... Grace F. Phillips, Southern Bell  
Ladies' Program Chairwoman

- 1. "Alternative Energy Options for North Carolina"  
Dr. Jimmie Wortman, Board Chairman, North Carolina State University
- 2. "Energy Management Efforts in Industry"  
C. Edward Scott, Senior Engineer, Energy Management, Salem, North Carolina.
- 3. "Geo-Thermal Heat Recovery Systems"  
Ronald D. Mahan, President, NESCO, Inc., Mebane, North Carolina
- 4. "Residential Solar Experimental Results"  
Gary Purcell, Project Manager, Energy Utilization Research, Powe Research Institute, Palo Alto, California.

**Session I-A — COMMUNICATIONS**

10:00 A.M. - 12:30 P.M.

Session Chairman - J. I. Barron, Southern Bell

- 1. "Synchronization of the Digital Telephone Network"  
Mr. Garry Jenkins, District Manager - Traffic Network Planning, Bell Laboratories, Basking Ridge, New Jersey.
- 2. "Communications Access to the American Home"  
Mr. Frank F. Bateman, Vice President, Engineering and Facilities, Jefferson-Pilot Broadcasting, Charlotte, North Carolina.
- 3. "Impact of Phasor Impedance Measurements on Communications Engineering for a Digital Office"  
Mr. Lonnie A. Dell, Wilcom Products, Atlanta, Georgia.

**Session II-B — STUDENT PAPER AWARDS**

2:30 P.M.

Student Paper Committee Chairman

Graduate and undergraduate students in the North Carolina State University will present their student papers for the student paper award presentation. The

6:00 — 6:30 P.M.

Exhibits will remain open during this time.

**Session I-B — POWER**

10:00 A.M. - 12:30 P.M.

Session Chairman - W. J. Foley, Duke Power

- 1. "Challenges of the 80's in the Power Industry"  
L. W. Eury, Vice President Power Supply, Carolina Power and Light, Raleigh, North Carolina.
- 2. "Turbine Generator and Excitation Systems in the Eighties"  
J. A. Massingill, Manager of Generator Product Engineering - LSTG Department, General Electric Company, Schenectady, New York.
- 3. "Large Power Transformers in the Eighties"  
D. A. Yannucci, Engineering Development Manager, Medium Power Transformer Division, Westinghouse Electric Corporation, Sharon, Pennsylvania.
- 4. "Inverters and Non-Interruptible Power Systems in the Eighties"  
H. W. Bates, Vice President Sales, Solid State Control, Inc., Columbus, Ohio.

**Tuesday, November 18, 1980**

8:00 A.M. Registration - Carolina Foyer, Sheraton Convention Center

**Session III-A — COMPUTERS**

9:15 A.M. - 10:30 A.M.

Session Chairman - G. I. Barron

- 1. "Recent Real Time Digital Speech Compression"  
Dan Esteban, IBM Corporation, Raleigh, North Carolina
- 2. "The Next Generation: Fault Tolerant Very Large Scale Integration"  
Dr. James Gault, North Carolina State University
- 3. "Digital System Architecture for Signal Processing"  
R. L. Earp and N. R. Bell, Western Electric Company
- 4. "Technology: Its Impact on Minicomputer Implementation"  
Ronald Schwartz and Thomas Mitchell, Data Control Corporation, Charlotte, North Carolina.

**LUNCHEON AND EXHIBITS**

1:00 P.M. - 2:30 P.M.

Luncheon Remarks: "IEEE Past-Present-Future" ... Eric Herz, Executive Director and General Manager, IEEE  
Introduction ..... D. C. Fleming, President, Charlotte Section IEEE

**Session III-B — STUDENT PAPER AWARDS**

9:15 A.M. - 10:30 A.M.

Student Paper Committee Chairman

EXHIBITS

11:45 A.M.

While the exhibits will be open during the entire symposium, the exhibits will be open during the entire symposium purpose.

**ATION/ALTERNATIVE SOURCES**

5:00 P.M.

Stubbins, Duke Power

Carolina Alternative Energy Corporation

agement, R. J. Reynolds Tobacco Company, Winston-

roe, North Carolina.

ion and Conservation Technology Program, Electric

**UDENT PAPERS**

5:00 P.M.

airman - W. A. Smith, UNCC

Carolina University system have been invited to submit papers will be in various areas of engineering.

cial Hour

open until 7:00 P.M.

Convention Center Exhibition opens

**ERS AND PERIPHERALS**

11:45 A.M.

J. Ratchford, IBM

Carolina.

ge Scale Integration (VLSI)"

y, Raleigh, North Carolina.

g"

pany, Greensboro, North Carolina.

ementations"

eneral Corporation, Research Triangle Park, North

**UDENT PAPERS**

11:45 A.M.

irman - W. A. Smith, UNCC

BITS

1:00 P.M.

posium, this time has been especially set aside for this

**LUNCHEON AND EXHIBITS**

1:00 P.M. - 2:15 P.M.

Student Paper Award Presentations and Remarks

"A Prospectus of Issues Concerning Engineering Education:

Dr. Robert Snyder, Dean of Engineering, UNCC

Introduction: W. A. Smith, Student Paper Committee Chairman

**Session IV-A — MEDIAL ELECTRONICS**

2:15 P.M. - 4:45 P.M.

Session Chairman - R. J. Coleman, UNCC

Introductory Talk: "Electrical Engineering in Medicine - A Brief Overview"

Robert J. Coleman, Ph. D., Department of Engineering Science, Mechanics and Materials, University of North Carolina at Charlotte.

1. "Computerized Patient Monitoring System"  
Francis Robicsek, M.D., The Sanger Clinic, P. A.,  
Thomas Masters, Ph. D., Heineman Medical Research Foundation, Charlotte, North Carolina.
2. "Neural Modeling: Electronic Simulation of Chemical and Electrical Events in Nerve and Neural Ensembles"  
David Bashor, Ph. D., Department of Biology, University of North Carolina at Charlotte.
3. "Computerized Data Acquisition for Direct Recording During Surgical Treatment of Arrhythmias"  
Alex Funk, Duke University Medical Center, Durham, North Carolina
4. "Medical Applications of Computer Graphics"  
Tim Bleakley, Tektronix Corporation, Beaverton, Oregon.

**Session IV-B — YOUR CAREER**

2:15 P.M. - 4:45 P.M.

Session Chairman - G. S. Preston, UNCC

Panelists:

Dr. Joseph Biedenbach, Director, Continuing Education, University of South Carolina, Columbia, South Carolina

Mr. W. G. Brown, Personnel Manger, Charles T. Main, Inc., Charlotte, North Carolina

Mr. George Dain, Manager of Personnel, Westinghouse Corporation, Charlotte, North Carolina

Mr. Frank S. Preston, Lecturer, UNCC Engineering and Coordinator of Cooperative Education, Charlotte, North Carolina

Mr. Sal Schifano, Engineering Services Manager, IBM, Charlotte, North Carolina

Discussion Topics

Technical Obsolescence and Role of Continued Studies.

Career Planning and What About Career Changes?

What About Priorities on Work, Home, and Personal?

What Makes for Success, Promotions, Raises?

What About Second Careers and Retirement?

Organization:

Each panelist will be asked to comment and discuss for 10 minutes maximum on Careers and one or more of the topics above or some special aspect of his choice (to be firmed up later).

Following the above, we expect to involve the audience in discussion and questions with further comments by the panelists.

Exhibits close at 5:00 P.M.



NCSE 80 - Silver Anniversary

The 25th North Carolina Symposium  
and Exhibition for Electrical and  
Electronics Engineers

CHALLENGE OF THE 80's

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The 25th Annual  
SYMPOSIUM AND EXHIBITION  
for  
ELECTRICAL AND ELECTRONICS  
ENGINEERS  
NCSE 80  
THE SHERATON CENTER  
555 South McDowell Street  
Charlotte, North Carolina  
NOVEMBER 17 AND 18, 1980

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**Co-Chairmen**  
R. H. Waltham  
Elliott Paper

J. D. Bankowitz  
IBM

**Exhibits**

T. C. Brandenburg  
Westinghouse Electric

**Arrangements**  
K. D. Lau  
Duke Power

**Program**

J. M. White  
IBM

**Publicity**  
S. G. Whisenant  
Duke Power

**Secretary - Treasurer**

R. D. Dartnall  
General Electric

**Student Papers**  
W. A. Smith  
UNCC

**Symposium Registration**

G. B. Garman  
Duke Power

**Ladies Program**  
G. F. Phillips  
Southern Bell

**Ex-Officio Advisory**

G. L. Finley  
Duke Power

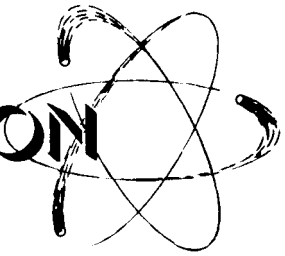
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THE

CHARLOTTE ELECTRON



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NOVEMBER, 1980

C. B. Mullis, Editor

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MEETINGS

SECTION: No regular meeting.  
Members are invited to the N. C. Symposium and Banquet to be held at the Sheraton Center on November 17.

POWER ENGINEERING SOCIETY: - Same as Section

COMMUNICATIONS SOCIETY: Monday, November 24 - Open House 12 N to 2 pm  
6th Floor Snack Bar - Southern National Center  
ALL IEEE Members are invited.

COMPUTER SOCIETY:      DATE: Monday, December 1, 1980  
                          PLACE: UNCC Smith 102  
                          TIME: 7:00 pm  
                          PROGRAM: Motorola 68000  
  Microprocessor or Macroprocessor  
                          SPEAKER: C. Michael Allen

There will also be an election of officers.

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SECTION:      DECEMBER MEETING

DATE: Monday - December 8, 1980  
PLACE: Park Road S & W Cafeteria  
TIME: Lunch - 12:00; Meeting - 12:30  
PROGRAM: Tax Shelter Investments  
SPEAKER: Mr. Dean R. Cline

Mr. Cline has been in the securities business since 1972 and has specialized in tax shelter investments since 1976. He has served with Merrill Lynch as a Senior Account Executive and with E. F. Hutton as an Assistant Vice President. In 1979 he began his own firm, National Equities Corporation, and now markets various investments with tax savings aspects.

Mr. Cline's presentation will cover:

1. Concept of Tax Shelters
  2. Types of Tax Shelter Investments
  3. Analyzing a Tax Shelter Investment
-

The following slate of officers was elected at the October Section meeting to serve during 1980-1981:

Chairman:	Carl G. Leonard	Duke Power
1st Vice Chairman:	C. Michael Allen	UNCC
2nd Vice Chairman:	George B. Garman	Duke Power
Secretary:	Jim White	IBM
Treasurer:	Grace Phillips	Southern Bell
Directors:	Jim Blankenship	IBM
	Ken R. Caraway	Duke Power
	Bijan Neshat	Duke Power
	Dr. Burton Wayne	UNCC

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#### SOUTHCON UPDATE

Atlanta, GA.....Southern manufacturers, engineers, and scientists will get a first hand look at the latest developments in the electronics industry when they gather for Southcon/81, in January of 1981 at the Georgia World Congress Center in Atlanta.

Southcon is two events: a three-day exhibition for manufacturers and suppliers of electronic and electronically related products, systems, and services; and a professional program with presentations on state-of-the-art technology by engineers and scientists directly involved in pure and indirect electronics usage.

Exhibit sales opened in June, and by mid-July, the maximum number of exhibit booth spaces had been sold. When the first Southcon show opens on Tuesday, January 13, 1981, there will be 470 quality electronics exhibits in place, many organized by ERA and IEEE members.

ERA Dixie, Sunshine, and Piedmont Chapters will be co-sponsoring the show with IEEE members of the Region 3 organization, the Atlanta Section, and the Florida Council.

NCSE 80  
BANQUET TICKETS

To encourage our members to support NCSE 80 and to show appreciation to those who have supported the Section throughout the year, a rebate system has been devised to help defray the cost of one banquet ticket. This rebate is based on a member's attendance at Section meetings during the year at \$2 per meeting attended for a maximum of \$14--the full price of the ticket.

The number of meetings attended will be taken from the meeting sign-in sheets. This rebate is intended for those individuals who actually incur out-of-pocket expenditures that are not otherwise reimbursable. If you would like to know the number of meetings you have attended in 1980, you may call one of the following who also have tickets for sale.

Harold Walker - 373-8167

Carl Leonard - 373-4217

Ken Caraway - 373-8349

Luis Lecaros - 373-8739