



## Scope Notes

### January Houston Section News

**There will be no meeting this month. This year things are changing for the Houston Section of IEEE. There will now only be 4 meetings a year instead of 8. So be sure to attend the ones we have. The Pocket Scope will still have 8 issues so you can always get your latest news from the monthly Scope.**

**See Page 2 for the continuing education schedule!**

**IEEE WEB ADDRESS**  
<http://www.ieee-houston.org>

### The Chairman's Message

**Donald Dunn** —



On behalf of the Executive Committee I want to extend a warm welcome to all members of the IEEE Houston Section. During the last year under Justo's leadership, the Executive Committee has made a tremendous effort in moving the Section into the new millennium. I would like to express my appreciation to all of the Executive Committee members who have volunteered their personal time for their profession. It is with this effort and dedication that the Houston Section of

the IEEE is able to provide the many services to the membership.

During the next year, I look forward to the opportunity to continue what Justo and the Executive Committee has begun. We have completed moving the Pocket Scope from a hard copy newsletter to an electronic publication. We have created an e-mail mailing list for monthly updates. We have scaled back the section meetings from eight per year to four. The purpose of the newsletter efforts is simple cost savings due to the fact that the bulk of the section income each year has been spent on the newsletter. As for the reduction in section meetings, this can be viewed in many ways. The principal reason we are reducing the number of meetings is that the section meeting attendance has dwindled over the years, while the society meetings have had healthy attendance. Our plan in the upcoming year is to have section meetings in February, April, September and December. During some of the other months we will have joint meetings with the technical societies.

Our efforts in the coming year will also be focused on creating more value at the society level for the section membership. We plan on working with the technical societies in developing programs that serve their membership. Many of the larger sections in the country and in our Region are able to provide greater benefits to the individual member by working with the local technical society chapters. Our plans are to mimic what has worked well within the Industry Applications Society and the Communications Society and leverage and apply that knowledge and leadership to the other societies within the Houston Section.

The Executive Committee and I look forward to your feedback and comments. If you have suggestions and/or are interested in becoming active within the section or a local society chapter, contact one of us. Without the active participation and feedback from you the members, the programs and content of the IEEE would be lacking.

Finally, I would like to thank our outgoing Chairman Justo Benitez for his leadership and support during this every changing year. Also, I would like to thank several individuals who have been committed to the IEEE and the Houston Section in more ways than I can describe briefly. Roy Cosse' for his vision and conviction in helping develop a successful continuing education program for the section. Jonna Schuler for editing the Pocket Scope with its endless maze of deadlines which the contributors (i.e. Excom) rarely meet. And finally all members of the Houston Section Executive Committee who each work countless hours on their personal time and in doing so allow each of us the ability to enhance our profession and career.

IEEE CONTINUING EDUCATION ON DEMAND

2000-2001 REGISTRATION FORM

Name:  
 Company:  
 Mailing Address: (where certificate will be delivered)  
 City/State:  
 Zip:  
 Email:  
 Telephone Voice:  
 Telephone Fax:  
 IEEE Membership Number:

Mail a copy of your completed registration form along with your check payable to **IEEE CED SEMINARS** at the following address:

IEEE CED SEMINARS  
 Ida Aguilar  
 Powell Electric Mfg. Co.  
 8550 Mosley  
 Houston, TX 77075

Registration receipts will be distributed **at the seminar**.

For a cancellation refund, telephone by the Friday before the seminar.  
 Contact Ida Aguilar at (713) 948-4929

IEEE Continuing Education On Demand Completion Certificate with Continuing Education Units (CEUs) is provided after receipt of both nightly questionnaires.

Please check the IEEE Houston Section website for the latest schedule and course information.

<http://www.ieee-houston.org>

IEEE CONTINUING EDUCATION ON DEMAND

The purpose of IEEE Houston Section Continuing Education On Demand is to provide a two-year repeating program sequence of practical industrial power application topics that supplement the daily work activities of the practicing graduate electrical engineer.

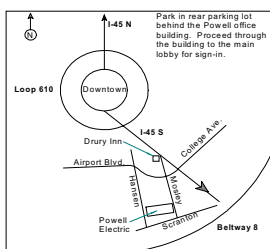
The seminars are intended to stimulate further study and discussion for learning continuance throughout the working career. Topics apply to heavy industries: oil and gas, petro-chem, cogen, pulp and paper, etc.

Instructors are application engineers, manufacturing specialists and expert consultants who provide a blend of diverse engineering perspectives.

The cost of each seminar is \$100.00 for IEEE members. "Early Signup" is \$50.00 and the **check must be received the Friday before** the seminar start date. The cost for non-IEEE members is \$190.00. Signup the week of the seminar does not guarantee seminar presentation documents or meals. For IEEE membership application information, contact Jeff Glasgow at (713) 753-2507.

The following 2000-2001 seminar schedule defines the topics, dates and times. A course syllabus is available on request. Minimum class size is twenty for each seminar. Seating is limited and filled on an as received basis. Presentation documents are provided. A buffet is served from 5:00PM-6:00PM.

Seminar location:  
**Powell Electrical Mfg. Co.**  
 8550 Mosley  
 Houston, TX 77075  
 Contact Ida Aguilar  
 (713) 948-4929



Seminar Title	Code	Date	Amount
Battery/Battery Chargers	930	Oct 3/4	\$
Power Sys. Operation and Control	110	Oct 17/18	\$
Harmonics Theory and Application	502	Oct 31/ Nov 01	\$
AFD Theory and Application	501	Nov 14/15	\$
Harmonic Filters	503	Feb 6/7	\$
Unit Substation Xfer Control Strategies	111	Feb 20/21	\$
National Electric Code	920	Mar 6/7	\$
Substation Auto. & Telecommunication	112	Mar 20/21	\$
Subst. Shield, Gnd. Grid Design and CP	312	Apr 3/4	\$
Surge Protection	320	Apr 17/18	\$
Induction Mtr Testing, Failures, & Repair	610	Apr 31/ May 01	\$
Total Paid:			\$

Enter amount for each seminar:

IEEE member registration: \$100.00  
 IEEE member early signup: \$ 50.00  
 Non-member registration: \$190.00

2000-2001 IEEE CED Seminar Schedule

**Battery/Battery Chargers (930)**  
**Roy Gates, ALCAD**  
 Oct. 3/4, 2000 6:00-8:50PM  
 Reviews battery and battery charger technologies, application and sizing. [0.5 CEU]

**Power System Operation and Control (110)**  
**Peter Evjen, Solar Turbines, Inc.**  
 Oct. 17/18, 2000 6:00-8:50PM  
 Reviews steady-state and dynamic operation of power systems, emphasizes governor and voltage regulator control. [0.5 CEU]

**Harmonics Theory and Application (502)**  
**David Rice, General Electric Company**  
 Oct. 31/Nov. 1, 2000 6:00-8:50PM  
 Reviews harmonics theory and application. [0.5 CEU]

**AFD Theory and Application (501)**  
**Charles Spiller, Siemens Energy and Automation, Inc.**  
 Nov. 14/15, 2000 6:00-8:50PM  
 Reviews theory and application of LV and MV adjustable frequency drives. [0.5 CEU]

**Harmonic Filters (503)**  
**David Rice, General Electric Company and Dick Harlow, Phaseco, Inc.**  
 Feb. 6/7, 2001 6:00-8:50PM  
 Reviews theory and application of harmonic filter design. [0.5 CEU]

**Unit Substation Transfer Control Strategies (111)**  
**Jim Bowen, Powell Electrical Mfg. Co.**  
 Feb. 20/21, 2001 6:00-8:50PM  
 Reviews secondary selective and spot network switchgear transfer control strategies. [0.5 CEU]



IEEE  
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**National Electric Code (920)**  
**John Paschal, Bechtel Corporation**  
 Mar. 6/7, 2001 6:00-8:50PM  
 1999 NEC discussions on hazardous area classification, cable sizing, and switchgear room design issues with reference to ROP changes for the 2001 Code. [0.5 CEU]

**Substation Automation and Telecommunications (112)**  
**Charles Davis and Dirk Unglaube, Siemens Energy and Automation, Inc.**  
 Mar. 20/21, 2001 6:00-8:50PM  
 Design architecture of industrial substation automation and communication. [0.5 CEU]

**Substation Shielding, Ground Grid Design and Cathodic Protection (312)**  
**Al Roach, HL&P**  
 Apr. 3/4, 2001 6:00-8:50PM  
 Introduces new IEEE shielding standard, discusses basic practices and tools of ground grid design transfer potential and procedure for cathodic protection implementation. [0.5 CEU]

**Surge Protection Theory and Application (320)**  
**William Nichols, Siemens Westinghouse Technical Services**  
 Apr. 17/18, 2001 6:00-8:50PM  
 Reviews theory and application of surge protection Lightning arrester selection and application. [0.5 CEU]

**Induction Motor Testing, Failures, Post-mortem Diagnosis and Repair (610)**  
**Edgar Merrill, Edgar F. Merrill PE and Dave Scherer, Rockwell LaPorte Motor Repair**  
 Apr. 31/May 1, 2001 6:00-8:50PM  
 Factory and field testing, followed by shop repair techniques and procedures. [0.5 CEU]

## **PES Elects New Officers for 2001**

The Power Engineering Society has elected new officers for the coming year.

Chairman - John Lucey  
 Vice Chairman - Tom Sarver  
 Secretary / Treasurer - Bob Wilson  
 Programs - Paul Barrett  
 Advisors: David Rains (Past Chairman)  
 John Herder

The Houston Chapter of IEEE-PES presently meets monthly for a luncheon/planning session. For further details, persons interested in attending the PES luncheon meetings should call Paul Barrett at (281) 496-9050 or e-mail Paulgbarrett@cs.com

## **IEEE – Houston Area Constituents**

Dear IEEE member:

I am pleased to inform you that, starting with the Fall semester 1999, our department offers a non-thesis Master of Electrical Engineering (MEE) degree in the area of “Industrial Power Systems.”

The program is intended to support the Houston industries that practice industrial electrical power systems design in both local and global marketplace.

The program, developed with significant participation of prominent Houston electrical industry representatives, focuses (*cont. on page 4*)

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## **CONFERENCE FOR PROTECTIVE RELAY ENGINEERS TEXAS A&M UNIVERSITY**

College Station, Texas  
 April 3-5, 2001

The Planning Committee of the 54th Annual Conference for Protective Relay Engineers invites you to attend the conference at Texas A&M University on April 3-5, 2001. The Protective Relay Conference provides a forum for engineers to discuss protection technology and related subjects. Both tutorial presentations on fundamental concepts and papers on new technology are included. The program will include the following:

- ◆ New protection equipment descriptions
- ◆ Relay application ideas and new concepts
- ◆ Case Studies and “Horror Stories”

(When the relays worked - and when they didn't!)

Registration Information:	Pre-Registration:	\$175 (begins January 3, 2001)
	After March 12, 2001 :	\$200

Manufacturers: For hospitality suites, please contact Lydia Godfrey at the College Station Hilton and Conference Center at (979) 694-4903

*This conference offers Continuing Education Credits*

**Web site:** <http://engineering.tamu.edu/prorelay/>

For Information: Dr. B. Don Russell  
 Associate Vice Chancellor  
 College of Engineering  
 Texas A&M University  
 College Station, TX 77843-3126  
 1232  
 (979) 845-8912

For Registration: Ms. Jacque Hand  
 Conference Registration  
 2nd Floor Rudder Tower  
 Texas A&M University  
 College Station, TX 77843-  
 (979) 845-7692

(continued from page 3) on workplace applications, and covers the most needed industrial topics.

Along with the other power area courses offered by the Department, the specific courses related to Industrial Electric Power Systems are: Analysis; Regulations and Standards; Substations and Switching Equipment; Transients, Harmonics and Grounding; Protection; Management; and Monitoring and Control.

The specific courses in this program are offered as evening classes, and are taught by instructors with significant industrial experience. The MEE degree counts as one year of experience for the PE exam. For those who do not wish to pursue the MEE degree, the classes can be taken as a Post Baccalaureate student.

Details regarding the program structure and the admission requirements, including the name, telephone and fax numbers, and the e-mail address where potential candidates can obtain supplementary information about the program are attached. It is also noted that to guaranty each course offering, at least 12 students should be registered in a course per semester.

For the Spring semester 2001 the following two courses, specific for the given MEE program, are offered: 1. ECE 6368 – Industrial Power System Analysis, Section # 11648, Tuesday, Thursday, (5.30-7.00) PM, Room 244-PGH; 2. ECE 6369 – Electric Power Regulations and Standards, Section # 11649, Tuesday, Thursday, (7.00- 8.30) PM, Room 244-PGH. Also, another graduate course of interest for the power area that is offered is: ECE 6377 – Power Transmission and Distribution, Section # 02241, Monday, Wednesday, (5.30-7.00) PM, Room E312-D3.

Sincerely,

Fritz Claydon  
Professor and Chair

### University of Houston

#### Department of Electrical and Computer Engineering (ECE) Master of Electrical Engineering (MEE) Program (Non-Thesis Master's Degree)

#### Area of Specialization: Industrial Power Systems

##### Description

The MEE program provides advanced instruction emphasizing engineering practice, and offers an opportunity for practicing electrical engineers to focus on design, systems operation, manufacturing, and management.

##### Admissions Requirements

- BS degree in EE or a closely related field, with a GPA of at least 3.0/4.0 (or equivalent) for the last 60 hours of the undergraduate degree
  - A GRE score with a cumulative score of at least 400 on the verbal portion, 700 on the quantitative portion, and 620 on the analytical part. (The requirement of taking the GRE may be waived in some instances, resulting in a conditional admission dependent on maintaining a satisfactory GPA.)
  - Three letters of recommendation
- The conditional admission applies only for the US citizens or permanent residences, and requires a GPA of at least 2.6, and a full-time job status.

##### Transfer of Credit

Up to six hours of graduate level work completed elsewhere can be transferred towards the course requirements for the degree. Also, on those six hours transferred credits it can be included the graduate level work completed as a Post-Baccalaureate (PB) student at the University of Houston.

##### General Course and Program Requirements

- Complete the program (36 semester credit hours) with a GPA of at least 3.0/4.0.
- The course requirements are divided into the following three categories:
- A. 6-9 hours of coursework from courses offered in the College of Engineering or in the College of Business Administration. These could be courses in Electrical Engineering at the 5000 level or higher. Business courses should be selected from an approved list.
  - B. 9-12 hours of coursework from courses outside of ECE, offered in the College of Engineering or in the College of Natural Sciences and Mathematics, and which are at the 4000 level or higher and belong to an approved list of courses.
  - C. A minimum of 18 hours of courses at the 6000 level or higher in Electrical Engineering within the Industrial Power Systems area.

A maximum of two courses (6 hours) from Categories A and B can be replaced by an approved project. The maximum coursework from Categories A and B is 18 hours.

For more information about the Program, contact Dr. Ovidiu Crisan, Professor, telephone: (713) 743-4432, e-mail: [ocrisan@uh.edu](mailto:ocrisan@uh.edu), Fax: (713) 743-4444. For information about the admission procedure and documentation, contact Ms. MyTrang, Graduate Admissions Analyst, telephone: (713) 743-4403, e-mail: [ece\\_grad\\_admit@uh.edu](mailto:ece_grad_admit@uh.edu), Fax: (713) 743-4402. Also, details about the MEE program and description of the courses can be found on the department web page at: <http://www.egr.uh.edu/ece>

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The **Pocket Scope** is the newsletter of the Houston Section of the Institute of Electrical and Electronic Engineers (IEEE). The Houston Section address is: IEEE Houston Section, P.O. Box 460014, Houston, TX 77056-8014

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Advertising rates include \$25 for one column inch, \$107 for a quarter page, and \$375 for a full page. Employment wanted ads for unemployed members are free.

IEEE members send **change or address** notices to: IEEE, PO Box 460014 Houston, TX 77056-8014 or call (800) 678-IEEE.

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