



# THE POCKET SCOPE



The Institute of Electrical and Electronics Engineers, Inc.

Volume 52, Number 8

April 2002

## SCOPE NOTES

### February Houston Section News

**Where:**  
HESS (Houston Engineering and Scientific Society)  
5430 Westheimer @ Yorktown

**When:**  
Thursday, April 25, 2002  
6:00 - 6:30 p.m. Social  
6:30 - 7:30 p.m. Dinner  
7:30 - 8:30 p.m. Speaker

**Cost:**  
\$FREE - IEEE Members with 48-hour advance reservations.  
\$20.00 - non-members  
\$5.00 - students  
Call (713) 207-IEEE to make your reservations.

See Page 2 for the Continuing Education Schedule!

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

IEEE Houston Section  
P.O. Box 460014  
Houston, Texas  
77056-8014



## The Chairman's Message

### Donald Dunn

Our next section meeting for 2002 will be Thursday, April 25<sup>th</sup>, and **Pat McGinty** Regional Manager of BENSCHAW, Inc. will be the speaker. The topic of his discussion will be an evaluation overview of AC motor starting techniques, medium voltage solid state controllers, benefits and features of MV solid state controllers, applications and data requirements and an engineers check list.

The First Annual IEEE Houston Section Scholarship Golf Tournament will be held at the Greatwood Country Club on April 26, 2002 and the tee time is at 8am. We still have a few openings for teams, so hurry and sign up. If interested contact Dwayne Lowry

<mailto:dclowry@nspof.net>, myself <mailto:donald.dunn@ieee.org>, or see our website at: <http://www.ieee-houston.org/IEEEgolf2002.pdf>

The Region 5 conference will be held in Clear Lake in April of 2002. We are looking for Corporate Sponsors that may be interested in helping defer the cost of the conference. The Galveston Bay and Houston Sections of the IEEE are hosting it this year. It will have four technical tracks (Design & Architecture, Internet and the WWW, Communication, Engineering Management, and Signal Processing) with many distinguished speakers from the Houston area. Visit the Houston section Website <http://www.ieee-houston.org/> for the latest information on this conference. If your company is interested in sponsoring a portion of the event, contact Zafar Taqvi <mailto:Zafar.Taqvi@SW.Boeing.com> or myself <mailto:donald.dunn@ieee.org> for more information.

We have had a successful year with the Houston Section CED program. This programs success is based on the commitment of a number of members. This programs content is focused at the members of the Industrial Applications Society and the Power Engineering Society. The Houston Section is currently working with the Communication and Computer Societies to develop continuing education programs for their disciplines for the fall of 2002 and spring of 2003. If you are a member of one of these societies and are interested in helping get these programs off and running, please contact one of the Excom members or myself.

The Houston Section will be manning booths at the SWEE-May 2002 and OTC-May 2002 Conferences this year promoting the IEEE. We have had a several members volunteer to help us man these booths and promote the IEEE. It is a great way to meet engineers from other companies and network. If you are interested contact one of the Excom members. In addition, the Houston Section CED program will be offering a free seminar on Wednesday 3pm at the SWEE conference. The seminar will be on "**New ANSI Medium Voltage Switchgear Ratings and their impact on Design and Type Testing**". The presenters of this program are *James E. Bowen* and *Roy E. Cossé, Jr.* Jim and Roy are two of the dedicated volunteers that make the Houston Section CED program such a great success. If you are interested in attending the free seminar RSVP to Donald Dunn @ [donald.dunn@ieee.org](mailto:donald.dunn@ieee.org).

As always 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 diminish.

IEEE CONTINUING EDUCATION ON DEMAND

2001-2002 REGISTRATION FORM

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

Seminar Title	Code	Date	Amount
Factory & Field	911	Oct. 2/3	\$
Standby Pwr Systems	115	Oct. 16/17	\$
Induction Motors	601	Oct. 30/ 31	\$
MV & LV Mtr Control	702	Nov. 13/14	\$
Safety by Design	114	Feb. 5/6	\$
Syn Generators	602	Feb. 19/20	\$
Governor Control	607	Mar. 5/6	\$
Excitation Systems	608	Mar. 19/20	\$
MV & HV Cable	113	Apr. 2/3	\$
MV Fuse & Interrupter Switches	315	Apr. 16/17	\$
Applying IEC Standards	801	Apr. 30 / May 1	\$
Total Paid:			\$



**IEEE  
Houston  
Section**

**2001-2002**

**Continuing  
Education  
On Demand**



**Spring 2002 IEEE Seminar Schedule**

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

IEEE CED SEMINARS  
 BEATRIZ REY  
 ABB Power T&D Company  
 P.O. BOX #42802  
 HOUSTON, TX. 77242

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

For a cancellation refund, telephone by the Friday before the seminar:  
 Contact Beatriz Rey at (713) 821-4027

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://\(www.ieee-houston.org\)](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 \$120.00 for IEEE members. "Early Signup" is \$60.00 and the **check must be received the Friday before** the seminar start date. The cost for non-IEEE members is \$200.00. Signup the week of the seminar does not guarantee seminar presentation documents or meals. For IEEE membership application information, contact Beatriz Rey at (713) 821-4027.

The following 2001-2002 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:  
 ABB Power T&D Company  
 P.O. BOX #42802  
 HOUSTON, TX. 77242  
 Contact Beatriz Rey  
 (713) 821-4027



Enter amount for each seminar:

IEEE member registration: \$120.00  
 IEEE member early signup: \$ 60.00  
 Non-member registration: \$200.00

**2001-2002 IEEE CED Seminar Schedule**

**Factory & Field Transformer Testing (911)**  
**Waldemar Ziomek, Pauwels Transformers, Inc.**  
*Reviews Techniques and Industry Standards*  
 Oct. 2/3, 2001 6:00-8:50PM  
**[0.5 CEU]**

**Standby Power Systems (115)**  
**Brad Roberts, S&C Electric Company**  
*Reviews Theory and Practical Applications*  
 Oct. 16/17, 2001 6:00-8:50PM  
**[0.5 CEU]**

**Induction Motors (601)**  
**Charlie Pounds, LBS Engineers**  
*Reviews Practical Applications*  
 Oct. 30/31, 2001 6:00-8:50PM  
**[0.5 CEU]**

**Medium & Low Voltage Motor Control (702)**  
**James Bowen, Powell Electrical Mfg. Co.**  
*Reviews Applications and Design*  
 Nov. 13/14, 2001 6:00-8:50PM  
**[0.5 CEU]**

**Safety By Design (114)**  
**James Bowen, Powell Electrical Mfg. Co.**  
*Discusses Various Safety Issues*  
 Feb. 5/6, 2002 6:00-8:50PM  
**[0.5 CEU]**

**Synchronous Generators (602)**  
**Charlie Pounds, LBS Engineers**  
*Reviews Theory and Techniques*  
 Feb. 19/20, 2002 6:00-8:50PM  
**[0.5 CEU]**

**Governor Control (607)**  
**Peter Evjen, Solar Turbines, Inc.**  
*Reviews Theory and Applications*  
 Mar. 5/6, 2002 6:00-8:50PM  
**[0.5 CEU]**

**Excitation Systems (608)**  
**Fred Wolf, Basler Electric**  
*Reviews Applications*  
 Mar. 19/20, 2002 6:00-8:50PM  
**[0.5 CEU]**

**Medium and High Voltage Cable (113)**  
**Wayne Madden, Okonite Co.**  
*Theory, Applications, Field and Factory Testing*  
 Apr. 2/3, 2002 6:00-8:50PM  
**[0.5 CEU]**

**Medium Voltage Fuse & Interrupter Switches (315)**  
**Neville Parry, Cutler Hammer**  
*Reviews Applications and Design*  
 Apr. 16/17, 2002 6:00-8:50PM  
**[0.5 CEU]**

## Protective Relay Engineers Conference

CONFERENCE FOR PROTECTIVE RELAY ENGINEERS  
TEXAS A&M UNIVERSITY  
College Station, Texas  
April 9-11, 2002

The Planning Committee of the 55th Annual Conference for Protective Relay Engineers invites you to attend the conference at Texas A&M University on April 9-11, 2002. 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: \$185 (begins January 2, 2002)  
After March 19, 2002 \$210

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: [engineering.tamu.edu/prorelay/](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  
(979) 845-8912

For Registration: Ms. Jacque Hand  
Conference Registration  
2nd Floor Rudder Tower  
Texas A&M University  
College Station, TX 77843-1232  
(979) 845-7692

In Conjunction with the 55<sup>th</sup> Conference for Protective Relay Engineers

A

PRE-CONFERENCE SPECIAL OFFERING

### **"Tutorial on Application and Protection of Shunt Capacitor Banks"**

In Cooperation with the Power System Relay Committee of PES

Monday, April 8, 2002.....1:30 - 5:00 p.m.....College Station Hilton – Brazos Amphitheater

Presenters: Simon Chano, Hydor Quebec; Roger Hedding, ABB Automation; Pratap Mysore, Xcel Energy

Tutorial, based on recently revised IEEE guides, is intended to provide basic understanding of various capacitor bank designs such as externally fused, internally fused and fuseless banks. Since the protection is influenced by the bank design, commonly used protection methods associated with each design, will be presented. System consideration and transients due to capacitor switching and its effect on other power system equipment will also be discussed.

## APRIL 25 SECTION MEETING

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Speaker: **Pat McGinty** Regional Manager BENSRAW, Inc.  
 BENSRAW, Inc. manufactures solid state controllers and AC drives for LV and MV applications thru 15 KV 60,000 HP. BENSRAW research engineers are innovators and high tech pioneers in the area of solid state technology relating to the control and protection of large rotating electrical machines. *See the Houston Section web site to confirm your reservation.*

### *Presentation Outline:*

- I. An evaluation overview of AC motor starting techniques
  - \* Across-the-line \* Auto Transformer \* Wye-Delta \* Solid State
- II. Medium Voltage Solid State Controllers
  - \* Basic Components \* Theory of Operation \* Series Operation of SCRs
- III. Benefits and features of MV solid state controllers
- IV. Applications and data requirements
  - \* An engineers check list
- V. Questions and Answers

## MAY 9 COMSOC MEETING

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### Computer and Communications Societies to hold a Joint Meeting

#### "Deterministic Distribution of Server Infrastructure over a Wide Area Network"

**Abstract:** Distributed computing infrastructures in large enterprises have become very sizable and complex, sometimes involving 1,000's of servers spread across 100's of sites located in every corner of the globe. Recent enhancements to operating systems allow unified management of a consistent computing environment across the entire enterprise, and some businesses have seen advantage in capitalizing on these improvements. This can result in a complete infrastructure architecture overhaul project of challenging complexity. Many IT departments address the architecture design with philosophy (e.g., total centralization is ideal) or expert opinion, but what happens when these approaches come in direct conflict with business requirements and customer demands? A deterministic (fact-based, analysis-driven) methodology is required. This presentation will describe a case study that applied such a methodology to satisfactorily address conflicting drivers in designing a large-scale server architecture that delivers required service levels across a broad variety of data networking systems and optimizes total costs.

**Mike Hinkle -Principal Advisor - Shell Information Technology International**

*Time and date: 11:30 AM to 1:00 PM on Thursday, May 9th, 2002.*

**Location:** Shell Information Center, 1500 Old Spanish Trail, Houston, TX

**Lunch:** Lunch may be purchased at the Shell Information Center cafeteria. We'll plan to eat from 11:30 to 12:00 and enjoy the presentation from 12:00 to 12:45.

Please RSVP via e-mail to [Ransom Siler](mailto:Ransom.Siler) to reserve a seat at the meeting by 12:00 Noon Wednesday May 9th (Please include your company name). Ransom can also be contacted for more information (including driving and parking directions)

## Freeport Subsection

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Freeport subsection meeting April 9, 2002 at 6:00 PM, at the Warren Electric Facility in Clute, TX (303 Commerce).

Title: Librication of Electric Motors

Summary: Industry Expert will cover the topic of Electric Motor Lubrication.

For questions call [Greg Slingerland](mailto:Greg.Slingerland@bechtel.com) at 979-244-7161.

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## IAS Chapter Meeting

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*INDUCTION OR SYNCHRONOUS MOTORS ? PROS, CONS, DIFFERENCES, SIMILARITIES...ETC.*

Mr. Broussard is with GE Industrial Systems; C&I Sales will cover AC Induction Motors. Darrell graduated from University Of Houston with a Bachelor in Electrical Engineering, class of 1972. Since graduation he has worked in industrial plants, construction, manufacturing and been an active member of PCIC. For the past 20 years Darrell has worked as a Power System Application Engineer for various departments in General Electric. For the past seven years he as worked in the Motors and Drives department of Industrial Systems.

Mr. Krusemark is with GE Industrial Systems Large Motors. Bob graduated from Texas A & M University with a Bachelor of Science in Industrial Distribution in 1977. His background has been working with various industries and utility customers dealing with compressors, fans, chippers, grinders, pumps, mills, refiners, pulverizers, and other specialty applications. Bob has spent a combination of 18 years working with induction and synchronous motors first with Westinghouse and then GE.

Below is an outline of the seminar:

Induction Motors	Synchronous Motors	Differences between Induction/Sync. Motors
Basic Motor Equations	Basic Motor Design	Applications
Motor Temperature Rise	Synchronous Motor Design	Starting Characteristics
Enclosures	Efficiencies	Starting Considerations for Synch. Motors
Expected Efficiencies	Standards	Exciter Control Panels
Efficiency	Rotector	Insulation Systems

**WHERE:** Foster Wheeler Building  
2020 Dairy Ashford Road  
Houston, TX 77077

**WHEN:** Thursday, May 2, 2002  
5:30 - 6:00 PM, Refreshments  
6:00 - 7:30 PM, Seminar

**RESERVATIONS:** Sunita Kulkarni @ 713 235 2833  
Email: [skulkarn@bechtel.com](mailto:skulkarn@bechtel.com)  
or  
Julia Dang@ 281-752-3505  
Email: [Julia\\_dang@fwc.com](mailto:Julia_dang@fwc.com)

## MAY 2002 SWEE SHOW

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The Houston Section will be manning a booth (527) at the Southwest Electrical Exposition (SWEE) May 7-8, 2002. We need volunteers to help us man this booth, promote the IEEE, and sign-up new members.

The Houston Section will also be presenting a seminar on "**New ANSI Medium Voltage Switchgear Ratings and their impact on Design and Type Testing**" at the show.

### *Abstract:*

An in-depth look at how circuit breakers and switchgear are tested, with an explanation of the published chart of medium voltage ratings. This presentation explains the K factor and %dc and the changes that have occurred. It reviews the changes to the switchgear and breaker standards that happened in the year 2000 and how they impact the newest generation of third party certified equipment.

### *Presentors:*

**James E. Bowen** received the B.S.E.E. degree from Texas A&M University in 1976. After working for S.I.P. Engineering as a Power Engineer for three years, he joined Exxon Chemicals in 1979. His duties included maintenance, project design, construction follow-up and commissioning for petrochemical and cogeneration processes.

In 1997, Mr. Bowen joined Powell Electrical Manufacturing Company as Technical Director where he provides leadership in the design development of medium voltage switchgear and circuit breakers. Mr. Bowen has presented numerous technical seminars for the IEEE Houston Section Continuing Education On Demand. He is a Professional Engineer in Texas and an active member of the IEEE.

**Roy E. Cossé, Jr.** received the B.S.E.E. (1968) and M.S.E.E. (1972) degrees from the University of Southwestern Louisiana, Lafayette, Louisiana. He has 30 plus years of Electrical Engineering experience in the Petrochemical, Marine, Pipeline, Cogeneration, and IPP Industries. His experience encompasses conceptual design, detailed engineering, training, startup, maintenance and operations. His specialty is power system analysis. He is a Professional Engineer in Texas and Louisiana.

Mr. Cossé is an IEEE Senior member. He is one of the original organizers of the IEEE Houston Continuing Education On Demand series; and he has presented technical seminars for this program. He has co-authored and presented IEEE conference technical papers. Mr. Cossé is employed by Powell Electrical Manufacturing Company where he is Coordinator for PowlTech Advanced Technical Services.

**If you are interested in attending the free seminar RSVP to Donald Dunn @ [donald.dunn@ieee.org](mailto:donald.dunn@ieee.org)**

**If you are interested in helping with the both contact Donald Dunn at 281-452-8809.**

## MAY 2002 OTC SHOW

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# CALL FOR VOLUNTEERS

**The Houston Section will be manning a booth at the Offshore Technology Conference (OTC) May 6-10, 2002 at the Reliant Arena. We still could use a few more volunteers to help us man this booth, promote the IEEE, and sign-up new members.**

**If you are interested contact John Lucey at 713-945-5923 or Donald Dunn 281-452-8809.**

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## IEEE Virtual Museum

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Piscataway, NJ -- Thomas Edison didn't invent the light bulb, so why does everyone think he did? What was the first computer? How did the patterns in a Utah cornfield lead to the development of TV? What is the "X" in an X-ray? Why are Alvin and the Chipmunks part of a museum about technology?

The answers to these questions and more are found in the new IEEE Virtual Museum launched at <http://www.ieee.org/museum>. Designed for educators, pre-college students, and the general public, the virtual museum debuted with two exhibits containing audio and video clips, and interactive features: Socket to Me! How Electricity Came to Be and The Beat Goes On: How Sounds are Recorded and Played.

Three more exhibits are in production and are scheduled for release by third quarter 2002. These will explore the different applications of microwaves, the works of Thomas Edison, and contributions women have made to electrical and information technologies.

The IEEE Virtual Museum explores the global social impact of electrical and information sciences and technologies and demonstrates the relevance of engineering and engineers to society. It is supported by the IEEE Foundation, the IEEE Life Members, and the Trustees of the IEEE History Center.

## EMBS Chapter Meeting

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### *Engineering Medicine and Biology Society Meetings*

**April 5 Computational Biomedicine** (Michael Brandt, PhD; University of Texas Health Science Center)

**April 12 High-Resolution Ultrasonic Blood Flow Sensing** (Craig Hartley, PhD; Baylor College of Medicine)

**April 19 Central Nervous System Magnetic Resonance Imaging** (Ponnada Narayana, PhD; University of Texas Health Science Center)

All seminars take place in Room 102D, Engineering Building, University of Houston at 3:00pm.

For more information, please contact [Periklis Ktonas](#) at (713) 743-4429.

## *IEEE Houston Section 1<sup>st</sup> Annual Scholarship Golf Tournament*

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### **Tournament Details**

**Date:** Friday, April 26, 2002

**Time:** 8:00 AM Shotgun Start

**Place:** Greatwood Golf Course

**Type:** Fourman Best-ball, shotgun start

**Entry Fees:** \$110/person or \$400/team (registered at the same time as a foursome)

**Tournament limited to first 36 teams (144 players)**

**Fair market value for an individual entry is \$80.00 (for tax purposes)**

**➤➤➤➤ Sponsorships Available <<<<<<**

**Includes: Green Fee, Cart, Range Balls, Prizes, Refreshments & Awards Lunch**

**Prizes Awarded: 1st, 2nd & 3rd Gross & Net, Longest Drive,**

**Closest to the Pin, Hole In One & Door Prizes**

**Special Events**

Door Prize/Mulligan tickets (\$5.00 per)

(No limit on the number purchased for door prizes. Only two can be used per person during the round of golf.)

Fees & donations benefit the IEEE Houston Section Scholarship Fund.

For information, please contact one of the individuals listed below or see our website at:

<http://www.ieee-houston.org/IEEEgolf2002.pdf>

[Dwayne Lowry](#) @ 281-565-2316

Walter Bartel @ 713-945-6126

[Donald Dunn](#) @ 281-452-8809

[Gil Dolor](#) @ 713-309-2023

[P.J. Donner](#) @ 713-945-7771

[Scott Ballew](#) @ 713-309-7721

[Bill Whipkey](#) @ 281-335-4665

## IEEE USA Career Focus

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### WHAT'S NEW @ IEEE FOR GOLD (Graduates Of the Last Decade)

VOLUME 3 NUMBER 4 APRIL 2002

An HTML version of this newsletter can be viewed on our online archive at <http://www.ieee.org/products/whats-new/wngold0402.htm>

#### CONTENTS:

1. Job-Market Good in Some Tech Industries; Many Others Gain Momentum
2. IEEE Board Approves Member Digital Library for 2003
3. New Book Advises Self-Promotion as Career-Building Strategy
4. Have a Break-Through Idea? Understand Your Intellectual Property Rights
5. IEEE Announces Newest Society and Council
6. Book Helps Women Survive and Thrive in Graduate School
7. U.S. Government in Desperate Need of IT Professionals
8. The Microprocessor Business: An IEEE Spectrum Special Report
9. Learning Outside of the Box
10. Beijing to Host 2002 International Conference on Telecommunications
11. Committee Issues Call For Speakers

### WHAT'S NEW @ IEEE IN POWER

VOLUME 3 NUMBER 4 APRIL 2002

An html version of this newsletter can be viewed on our online archive at <http://www.ieee.org/products/whats-new/wnpower0402.htm>

#### CONTENTS:

1. Alliance Formed to Defend Against Cyber and Physical Terrorism
2. Energy Industry Seeks Profit through Flexibility
3. Super Junction, High-Voltage Among Topics on June IEEE-EDS Agenda
4. Mirror-Image Materials Hold Promise of Better Electro-Magnetic Technology
5. IEEE Announces Newest Society And Council
6. IEEE Board Approves Member Digital Library For 2003
7. Title on Electric Machines Now Available
8. Power Electronics Handbooks Includes Insights from Over 60 Experts
9. The Microprocessor Business: An IEEE Spectrum Special Report
10. A-C-T-N-O-W: A Strategy for Effective Crisis Communication (Part III)
11. IEEE-USA Seeks Executive Fellowship Applicants
12. IEEE Computer Society Announces Free Online Training Courses

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## Region 5 Conference

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The IEEE Region 5 Conference will be held on April 19-21 of 2002. The conference will have 5 technical tracks on Friday, student contests on Saturday and Region 5 business and training on Saturday and Sunday. For more information see the attached weblink.

[www.ieee-houston.org/Reg5Conf/Default.htm](http://www.ieee-houston.org/Reg5Conf/Default.htm)

We are also seeking Corporate Sponsors for the Technical and Student programs.

# EXECUTIVE COMMITTEE HOUSTON SECTION IEEE

**OFFICERS**

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Mick Bayer, Dow Chemical, Vice Chair.....	979-238-7911
Larry Williams, Dow Chemical, Secretary/Treasurer.....	979-238-9087

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Heidar Malki, University of Houston (ET).....	713-743-4075
Tony L. King, University of Houston.....	713-743-4423

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

The **Pocket Scope** is published eight times a year (monthly, September to May, except December). It is distributed to over 3000 professionals in the electrical engineering field in the greater Houston area.

Advertising rates are listed on the IEEE Houston Section website and include publishing in The Pocket Scope, ad on the website, and within the monthly e-mail update.

IEEE members make change of address notices via the IEEE website: [www.ieee.org](http://www.ieee.org).

**Newsletter Staff**

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