



Scope Notes

February Houston Section Meeting

Date: February 22, 2001

Time: *Social:* 6:00 - 6:30

Dinner: 6:30 - 7:30

Speaker: 7:30 - 8:30

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

Dinner will cost:
\$15 for members
\$5 for students

Feb. 18-24 is Engineers Week!

Visit the Employment Assistance link at the IEEE Houston section homepage for employment listings at the local level. (Free to all members)

The Chairman's Message

Donald Dunn —



Due to the publishing requirements, I am writing this note shortly after the first of the year. We have not had our first section meeting or executive committee meeting under my chairmanship. We have updated the website and are continuing to build our e-mail majordomo mailing list. Any suggestions about improvements would be greatly appreciated.

The address of the website is <http://www.ieee-houston.org/> and if you have not joined the e-mail majordomo, instructions are on the website.

The December section meeting had good attendance even with the short notice on the change in presenters. Dr. Tom Hudson was not able to be with us this December as he is currently in the hospital. Our thoughts and prayers go out to him and his family. Charles Burns with AutoCap gave an excellent presentation on "Battery Backup Systems". As we have announced in the past our section meetings will change form eight times a year to four. Our first section meeting for 2001 will be February 22 followed by meetings on April 26, September 27 and December 6. During the other months we plan on having joint meetings with several technical society chapters.

The speaker for our February meeting will be Dr. Kumar Krishen. His presentation will be on "Space Technology Development, Transfer, and Commercialization". Dr. Krishen is the Chief Technologist for the Technology Transfer and Commercialization Office, NASA Johnson Space Center, Houston, Texas, responsible for developing strategies for joint research, technology projects and plans with, industries, universities, other NASA centers and government agencies. He also has represented JSC as the Principal Technologist on the NASA Council on Science and Technology. His academic degrees are from Kansas State University (Ph.D. and M.S.), Calcutta University (M. Tech and B. Tech), and Jammu and Kashmir University (B.A.) in electronics, electrical engineering, radio physics, and mathematics. Dr. Krishen was an Assistant Professor in Electrical Engineering at Kansas State University before joining Lockheed in 1969 as Staff Scientist. In 1976, he joined NASA and has held key positions in Advanced Programs in Earth Observations, Science Payloads, Experiment Systems, Tracking & Communications, Mission Support and technology R&D. Authoring more than 120 technical papers/reports, Dr. Krishen is a Fellow of the Society for Design and Process Science. He is the recipient of many awards, medals, commendations, and honors from universities, industry, and government organizations.

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 remind the Houston Section Members that Engineers Week will be February 18-24.

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.

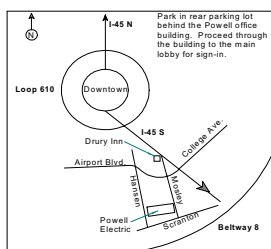
Instructors are application engineers, manufacturing specialists and expert consultants who provide a blend of diverse engineering perspectives.

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
 Houston
 Section
 2000-2001
 Continuing
 Education
 On Demand**



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]

CORROSION/2001 A NACE Odyssey

The World's largest society of corrosion-control experts will convene at the George.R. Brown Convention Center in Houston, Texas for NACE International's 56th Annual Conference and Exhibition March 11 to 16, 2001. Whether you are in engineering, inspection operations, maintenance, manufacturing or management, CORROSION/2001 is the place to be for staying on top of corrosion control! The NACE Annual Conference will bring the world of corrosion technology together in Houston, Texas. The conference features more than 450 paper presentations within 36 technical symposia, panel discussions with industry experts, current issues, and research presentations. NACEExpo/2001 continues to grow by offering more than 600 corrosion products and service exhibits. To receive a hard copy of the CORROSION/2001 advance program, visit www.nace.org for an online request form. You can also register online by visiting the web site. For more information about the annual conference, call 281-228-6200, ext 1800.

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



DR. KUMAR KRISHEN

Dr. Krishen is the Chief Technologist for the Technology Transfer and Commercialization Office, NASA Johnson Space Center, Houston, Texas, responsible for developing strategies for joint research, technology projects and plans with, industries, universities, other NASA centers and government agencies. He also has represented JSC as the Principal Technologist on the NASA Council on Science and Technology. His academic degrees are from Kansas State University (Ph.D. and M.S.), Calcutta University (M. Tech and B. Tech), and Jammu and Kashmir University (B.A.) in electronics, electrical engineering, radio physics, and mathematics. Dr. Krishen was an Assistant Professor in Electrical Engineering at Kansas State University before joining Lockheed in 1969 as Staff Scientist. In 1976, he joined NASA and has held key positions in Advanced Programs in Earth Observations, Science Payloads, Experiment Systems, Tracking & Communications, Mission Support and technology R&D. Authoring more than 120 technical papers/reports, Dr. Krishen is a Fellow of the Society for Design and Process Science. He is the recipient of many awards, medals, commendations, and honors from universities, industry, and government organizations, and is listed in Who is Who in the World and 2000 Outstanding People of the 20th Century.

Space Technology Development, Transfer, and Commercialization*

Kumar Krishen, Ph.D.

NASA Johnson Space Center

A discussion on the need for technology development for the Human Exploration and Development of Space (HEDS) will be presented. HEDS is one of four key NASA strategic enterprises aimed at opening the space frontier by exploring, using and enabling the development of space and expanding the human experience into the far reaches of space. Goals of HEDS are: to increase human knowledge of nature's processes using the space environment, exploring and settling the solar system, achieving routine space travel, and enriching life on Earth through people living and working in space. NASA's Mars Pathfinder and the International Space Station will provide extensive experience, research and technology (R&T), and infrastructure for other envisioned programs in support of HEDS. In the past decade, the Clementine and the Lunar Prospector missions have provided valuable remotely sensed data of the Moon. In addition, NASA has studied the development of a lunar habitat and human mission to Mars as possible HEDS missions. These missions face common challenges for survival of humans on the surface of planets. With the Mars mission being the first to such a distant planet, advanced technologies will be required to enable the mission and to provide cost effective and safer approaches. The R&T areas considered important for a human mission to Mars include advanced human support, space transportation, automation and robotics, space power, information processing and communications systems, sensors, and instruments. NASA Johnson Space Center is actively providing the technology developed for the space applications to industry, universities, and other organizations for research, education and commercialization purposes. Strategies for this technology transfer will also be presented.

* Views presented are not necessarily those of NASA.

EXECUTIVE COMMITTEE HOUSTON SECTION IEEE

OFFICERS

JDonald G. Dunn Equistar Channelview, Chair.....281-452-8809
 Reggie Comfort, Reliant Energy HL&P, Vice Chair.....713-207-6616
 Dwayne Lowry, Secretary and Webmaster.....281-565-2316
 Gil Dolor, Equistar Chemical, Treasurer.....713-309-2023
 Justo Benitez, Foster Wheeler USA, Past Chair.....281-587-3108
 IEEE Home Page..... <http://www.ieee-houston.org>

SOCIETY CHAIRS

W. Ransom Siler, Shell Services Int., Communications.....713-245-4199
 Ernst Leiss , U of Houston, Computer.....713-743-3359
 Peri Ktonas , U of Houston, Engr-Medicine & Biology.....713-743-4429
 Julia Dang, Air Liquide Industry Applications.....713-624-8757
 Jeffrey Williams, U of Houston, Multi-group Electronics.....713-743-4455
 John Lucey, Reliant Energy HL&P, Engineering.....713-945-5923
 Richard Baraniuk, Rice University, Signal Processing.....713-285-5132
 Robert Nevells, Texas A&M U. A.M.L.G. A&M.....409-845-7591
 Joseph Cavallaro, Rice University, Circuit and Systems.....713-527-4719

COMMITTEE HEADS

P. J. Donner, Reliant Energy, Arrangements.....713-945-7771
 Paul Barrett, Fred Oberlender and Associates, Awards713-680-9659
 Ray Schmidt, Conferences281-468-2978
 Raymond Joseph, Aarden Control Engr. & Science, Consultants Network.....281-343-1607
 Roy Cosse', M.W Kellog, Continuing Education713-753-2924
 Linda McOmber-Smith, Reliant Energy, Engr Council of Houston713-207-3521
 Jeff Glasgow, Foster Wheeler USA, Membership281-597-3385
 John Lucey, Reliant Energy, Offshore Tech. Conf.713-945-5923
 David Fink, Esq, PACE.....713-729-4991
 Ram Gupta, Foster Wheeler USA, Programs.....281-597-3175
 Jonna Schuler, Dow Pipeline, Publications.....713-978-2538
 Timothy Johnson, D. Fink Esq., Student Activities713-729-4991
 Jimmy Salinas, SW Bell Telephone Science Fair Coordinator713-567-8095

FREEPORT SUBSECTION OFFICERS

Greg Slingerland, Equistar Chemical ,Chairperson979-244-7161
 Mick Bayer, Dow Chemical, Vice Chairperson979-238-7911
 Larry Williams, Dow Chemical, Secretary/Treasurer979-238-9087

STUDENT BRANCH ADVISORS

Penrose Cofie , Prairie View A&M U.409-857-3923
 Bob Jump, Rice University713-527-4020
 Walter Daugherty, Texas A&M U. (CS)979-845-1308
 John Tyler Jr., Texas A&M U. (EE)979-845-7508
 Rainer Fink, Texas A&M U. (ET)979-845-5966
 Pierre Catala, Texas A&M University Communications979-845-4948
 Brent Nicholas, Texas Southern U.713-827-2428
 Ovidiu Crisan, U. of Houston (EE)713-743-4432
 Heidar Malki, U. of Houston (ET)713-743-4075

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

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 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.

Newsletter Staff

Editors: Jonna Schuler, (713) 978-2538, Fax (713) 978-3050
 E-mail jlschuler@dow.com
 Mike and Joe Mabile, E-mail MikeM035@houston.rr.com
Advertising: (713) 978-2538



THE POCKET SCOPE
 IEEE Houston Section
 P.O. Box 460014
 Houston, TX 77056-8014

NON-PROFIT
 ORGANIZATION
 U.S. POSTAGE
PAID
 HOUSTON, TEXAS
 Permit No. 6513