



the Analog

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SECTION ANNOUNCEMENTS

PROFESSIONAL ACTIVITIES COMMITTEES FOR ENGINEERS (PACE)

by Otto M. Friedrich, Jr.; P.E. (Texas)

In our Central Texas Section of IEEE, PACE conducts professional activities in many ways. These activities include student, section, and chapter projects and programs. For example, the students have "Student Professional Activity Conferences." Students can participate in these SPAC meetings at their student branch or regional conference level. The section has professional activities such as meetings, trips, workshops or conferences that emphasize the "professional" side of engineering. One project that we would like to highlight this year is "carpooling." In order to improve the networking of our members through more participation at the section meetings, "carpools" are being developed. This will help get our members in Austin to meetings in San Antonio, and our members in San Antonio to meetings in Austin. Also, Les Johnson has looked into using a "chartered bus" for transportation between the two cities of Austin and San Antonio. If you would like to use a chartered bus, please let us know. Les Johnson's e-mail is l.johnson@ieee.org.

Some examples of the professional activities at the chapter level include those of the Central Texas IEEE Consultants' Network. The Central Texas Chapter is a member of the "Alliance of IEEE Consultants' Networks," called AICN. The Central Texas chapter has monthly meetings in Austin on the first Thursday of each month at the Red Lion Restaurant. For example on Thursday, October 2, 1997 James Mercier of the Texas Department of Transportation talked about multidis-

ciplinary knowledge and doing engineering work for TxDOT. On Thursday, November 6, 1997, John Luden will speak on some of Austin's planning, environmental, and conservation programs. For additional information please call Bill Thorpe (512) 863-8621 or Paul Alesu (210) 263-0033 or visit the world site at <http://www2.swri.edu/~ieee/consult.htm/>.

The consultants' network publishes a "Directory of Consultants and Consultant Services." This information is updated and available on the world wide web. Also, the consultants' network had a Workshop on May 17th of 1997. Annual workshops are planned. Increasing the networking of the members of the Consultants' Network with other section members, professionals, non-members, industry and government is a primary goal of this IEEE chapter in the Central Texas Section. Suggestions and help to improve the professional networking will be greatly appreciated. You may contact me at (512) 385-3758 or e-mail to: o.friedrich@ieee.org.

STUDENT BRANCH ACTIVITIES

Trinity student branch currently has 15 members. This year we are organizing IEEE Pizza Talk held once every three weeks on Fridays. Students and faculty involved in research or design projects are invited to give a presentation on their progress. We are planning to visit JJ Pickle Research Campus at UT Austin and Southwest Research Institute. We are also initiating tutoring sessions conducted by IEEE members to help lower classmen with their electrical engineering courses.

NOVEMBER CHAPTER MEETINGS

CENTRAL TEXAS SECTION MEETING

Tuesday, November 11, 1997

Time: 6:30 PM - Social (Cash Bar)
7:00 PM - Dinner (\$15.00)
8:00 PM - Program

Place: Holiday Inn Northwest
3233 NW Loop 410
Juniper Room
San Antonio, TX

Speaker: Prof. David Jiles
Ames Laboratory
Iowa State University
Ames, IA

Topic: Modeling Magnetic Properties
of Materials

The understanding of the relationship between structure and properties of magnetic materials is crucial in being able to design magnetic materials to

meet specifications. However, it has proved extremely difficult to bridge the gap between the description of magnetism on the electronic or atomic levels and the description of whole materials. Model theories have been developed on different length scales to try to address some of the problems of describing the magnetic properties of materials. Most of these have little apparent common ground, and yet all contain certain useful descriptions of magnetic materials and are successful in their own ways. The objective is to give an overview of the available methods that can currently be used to describe magnetic materials, and to consider how these may eventually be linked together to provide a more coherent description. Some significant model theories that have been developed to describe the

properties of magnetic materials will be discussed.

Biography: David Jiles is a Senior Physicist with Ames Laboratory, U.S. Department of Energy. He received a BS in mathematics and physics from the University of Exeter (1975), a MS in experimental nuclear physics from the University of Birmingham (1976), and a PhD in applied physics from the University of Hull (1979). After periods at Victoria University of Wellington in New Zealand, and Queen's University in Canada, he joined Ames Laboratory in 1984. In 1990 he was awarded a higher doctorate in physics by the University of Birmingham, UK, for his work on magnetic and electronic properties of metals. He has authored over two hundred scientific papers, mostly in the general area of applied magnetism, and two books. He also holds eight

patents and seven additional patent disclosures in the general area of magnetic measurement techniques.

Directions: Exit I-410 at the Vance Jackson exit from either side of the expressway. Get on the access road going west. The Holiday Inn Northwest is located near the intersection of I-410 and I-10.

Reservations: Required by noon Monday, November 10.

Austin..... Kelly Butler (512) 452-2811
or kbutler@ccsi.com
SA..... M. Abdolsalami (210) 431-2047
or m.abdolsalami@ieee.org

LASERS & ELECTRO-OPTICS SOCIETY MEETING

Monday, November 3, 1997

Time: 11:00 AM
Place: University of Texas at Austin
J.J. Pickle Research Center
Austin, TX
Speaker: Larry Bergman
Jet Propulsion Laboratory
Pasadena, CA
Program: Next Generation Cluster
Computing Networks

The presentation will describe a next generation all-optic cluster computer network called the "Spectral PCM Shufflenet" that has 20-100X more capacity than today's electronic computer networks (such as gigabit ethernet) offering the promise of assembling multi-teraflop parallel computers from arrays of commodity workstations or PCs. Also described are the basic and very unique optical and optoelectronic building blocks of such a system, including time aligned multi-wavelength sources and detectors, optical couplers, and all-optic encoders/decoders and regenerators.

Biography: Larry Bergman received his MS degree from Caltech and his PhD degree from Chalmers University of Technology, Gothenburg, Sweden, both in electrical engineering. For the past 25 years, he has worked at the Jet Propulsion Laboratory, Pasadena, CA in the area of fiber optic local area networks, terabit all-optical computer networks, fiber optic sensors, and optical interconnections for computers. He has authored over 70 papers in the fields of fiber optics and high-speed communications, received four patents, lectured at local universities, and is a member of many engineering honor and professional societies. He presently is the Deputy Manager of the Information and Computing Technologies Research Section, and is also the Project

Engineer for the JPL Supercomputer Center.

Directions: The J.J. Pickle Research Center is located on the southeast corner of Burnet Road and Braker Lane in the Microelectronics and Engineering Research Building (MERB). The MERB is the first building on the left-hand side when you enter from Burnet Road into the J.J. Pickle Research Center. Attendees may enter by way of Braker Lane or Burnet Road. These roads may be accessed by way of either I-35, Loop 1/Mopac, or 183.

For further information, contact:
Susan K. Swanson.....(512) 471-7035
or susan.swanson@mail.utexas.edu

IEEE CONSULTANTS' NETWORK MEETING

Thursday, November 6, 1997

Time: 6:30 PM - *Social/Networking*
7:00 PM - *Program*
Place: Red Lion Restaurant
North of 290E
East Side of I-35
Austin, TX
Speaker: John Luden
Program: Austin Performance Contracting - Transformation of Austin's Planning, Environmental, and Conservation Department

Chapter business will include the directory for 1998. Please prepare your data for the 1998 directory (ASCII format). Also discussed will be the next Workshop.

For further information, please call:
Austin..... Bill Thorpe (512) 863-8621
SA..... Paul Alesu (210) 263-0033

CETA CHAPTER MEETING

Wednesday, November 12, 1997

Time: 6:00 PM - *Social*
7:00 PM - *Meeting*
Place: Holiday Inn Northwest
Southwest Corner of North
Mopac and U.S. Hwy 183
North
Austin, TX
Program: The Increasing Value of High
Density Flex Circuitry in IC
Packaging

Most package designers are very familiar with the use of flexible circuitry in the making of tape carrier packages (TCP), otherwise known as tape automated bonding (TAB). With the emergence of ball grid array packaging, the advantages of low cost fine pitch flex circuitry can be utilized without the need for the specialized equipment and

processes required for TAB. While the fine pitch capability still enables die shrink, excellent electrical properties, and higher density, a standard unbumped die can be wire bonded into a tape ball grid array (TBGA) package that can be surface mounted with standard pick and place equipment. This talk will outline how high density flex circuitry can be utilized to create various ball grid array package structures (including chip scale packages) with wire bonding, thermocompression bonding, or flip chip. Various levels of electrical/thermal performance, reliability, form factor and cost are possible. The advantages/disadvantages and target markets for each will be discussed.

Please contact Keith Vanderlee (512) 984-4542 for more information or if you would like to present at one of these meetings.

POWER ENGINEERING SOCIETY MEETING

Thursday, November 20, 1997

Time: 6:30 PM - *Social*
7:00 PM - *Dinner*
8:00 PM - *Program*
Place: Krause's Cafe
148 Castell
New Braunfels, TX
Speaker: Kelly Hayes
CSW Communications
Austin, TX
Program: Automatic Meter Reading
Provides Customer Retention in a Changing Regulatory Environment

More and more electric utilities are scrambling to implement solutions now in hopes of retaining the electrical end user when these customers have the opportunity to choose their electric provider. Regional cities such as Georgetown and Austin are currently implementing automatic meter reading technologies to retain their current market share. Subjects that will be covered in this program include restructuring across the country, automatic meter reading technologies, and CCC projects.

Biography: Kelly Hayes is a Senior Sales Consultant with CSW Communications in Austin, TX. He sells consulting and implementation services for Utility Automation projects to Electric Utilities in the Southern United States. Kelly came to CSW Communications from Southwestern Electric Power Company (SWEPCO) in Shreveport, LA where he worked as a Residential Marketing Consultant.

CSW Communications is an Austin-based subsidiary of Central and South West Corporation. CSW Communications develops and operates telecommunications services and, through its Customer Choice & Control (CCC) business line, provides automatic meter reading (AMR) Consulting and AMR Implementation services to utilities worldwide.

Reservations: Call Cindi Tinnin 1-830-792-8232 by Wednesday November 19:

**SIGNAL PROCESSING/
 COMMUNICATIONS SOCIETY
 MEETING**
Thursday, November 20, 1997

Time: 6:30 PM - Social
 7:00 PM - Dinner (\$12 members/guests; \$5 students)
 8:00 PM - Program

Place: Red Lion Hotel
 Lion's Den
 Austin, TX

Speaker: James J. Mercier
Program: Membership Advancement

In brief, Member grade requires demonstrated professional competence in IEEE designated fields through education, professional experience or a combination of both. The Senior Member grade requirements are those of Member plus 10 years of experience and the nomination of 4 Senior Members or Fellows.

Biography: James Mercier chairs the Central Texas Section Membership Committee. He will be on hand to address advancement from Associate Member to Senior Member grade. Membership advancement is in each of our best interest for recognition by our peers, professional advancement at work and personal satisfaction.

Directions: The Red Lion Hotel is located at I-35 and 290 in Austin.

Reservations: Please call one of the following by Tuesday, November 18:
 Warren Rogers (830) 885-4411
 Clif Denny..... (210) 456-3919
 Scott Atkinson (210) 456-2101

EMC CHAPTER MEETING
Thursday, November 20, 1997

Time: 7:00 PM - Doors Open
 7:30 PM - Presentation

Place: To Be Determined

Speaker: John Osburn
 EMC Test Systems
 Austin, TX

Program: Evaluation and Improvement of Radiated Immunity Test System Performance

The EMC Chapter Meeting will be held in conjunction with the IEEE Student Chapter at the University of Texas in Austin, TX. Check the University of Texas IEEE student chapter web site or the location and map to the meeting room: <http://IEEE.ECE.UTEXAS.EDU/CALENDAR>. For further information, call Jim Polonis (210) 522-2283 or email j.polonis@ieee.org

COMPUTER SOCIETY MEETING
Thursday, November 20, 1997

The Computer Society will have a planning meeting at the Shoreline Grill, 98 San Jacinto Blvd, Austin, TX. All are welcome. For further information please call J. McGuffee at (512) 223-6258.

NOVEMBER 1997 MEETINGS				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3 LEOS MTG (Austin)	4	5	6 CONSULTANTS' NETWORK MTG (Austin)	7
10	11 SECTION MTG (San Antonio)	12 CETA MTG (Austin)	13	14
17	18	19	20 PES MTG (New Braunfels) ASSP, EMC, and COMPUTER MTGS (Austin)	21
22	23	24	25	26
29	30	31		

