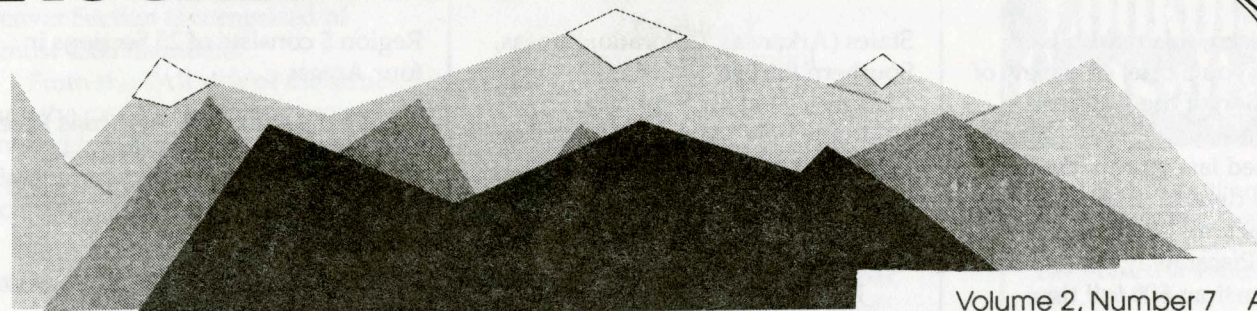


RockIEEE Overlook



Volume 2, Number 7 April 1997

Meetings

Joint Power Engineering /Industry Applications

Seminar

Thursday, April 17, 1997
7:30 a.m. - 5:30 p.m.

PSCO Training Facility
938 Bannock St.

Cost

\$ 95 IEEE members, \$ 190 non-mem.

Speaker

Chuck Mello, SET
Director of Training & Standards
Electro-Test, Inc.

*Fundamentals of Grounding - II
Design and Application for Industry*

Call Robert Randall @ 277-2040 with
questions.

Upcoming Events

May 15, 1997: Tony Jefferson -
"Adaptive Var Compensation"

Lasers and Electro-Optics

Thursday, April 24, 1997
7:00 p.m. Refreshments
7:30 p.m. program

NIST, Room 1107
325 Broadway, Boulder, Colorado

Speaker

Dr. Kevin Lear, IEEE/LEOS
Distinguished Lecturer

*"High-Efficiency Vertical-Cavity
Surface-Emitting Lasers"*

Contact Andy Aust at 497-3942 or
aust@boulder.nist.gov for additional
information.

Upcoming LEOS Meetings
to be held at NIST in Boulder.

May 15, 1997

Dr. Gary Bjorklund, OSA Speaker
Title to be determined.

Joint Antenna & Propagation/Microwave Theory & Technology, Geoscience & Remote Sensing

Thursday, April 17, 1997
4:00 - 5:00 p.m.

NIST, Room 4020
325 Broadway, Boulder, Colorado

Speaker

Dr. Lorant Muth
and Ronald C. Wittman
NIST, Electromagnetic Fields Div.
Antenna and Materials Metrology

*"RCS Research to Support a
Measurement Assurance
Program and Certification"*

Call Richard Geyer, 497-5852 for
additional information.

Member Professional Awareness Conference

Saturday, April 12, 1997 Hyatt Regency Hotel - Downtown Denver

Meeting Cost: \$ 30.00 Dinner Cost: \$ 25.00 (Optional)

RESERVATIONS MUST BE MADE IN ADVANCE

Denver Section: Call John Tsucalas (303) 798-5769
Pike's Peak Section: Call Gina Dougherty (719) 573-3449

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Sitting in the Chair

by Fred Jones

As promised, this month I am going to give you a brief overview of the organization of the IEEE and explain where you fit into the picture. As I mentioned last month, the IEEE is a large and diverse organization. So large, in fact, that the headquarters office in Piscataway, NJ requires a staff of more than 600 full time employees and an operating budget of more than \$35M per year. The IEEE is the largest professional organization in the world. I have included a Table of Organization (TO) of the IEEE with this month's newsletter to give you a map to follow as you read. I copied this TO from an article in *The Institute* several years ago and, while there have been some changes over the years, I believe it is still fairly accurate. If anyone has more recent information, I will be glad to publish it.

At the bottom of the TO, you will notice the "Six Major Boards". These are the entities that have the most direct impact on (or benefit to) you as a member. In particular, the Regional Activities Board (RAB) and the Technical Activities Board (TAB) govern most of your involvement as a member. RAB is the governing hierarchy of the membership and TAB is the governing hierarchy of the professional societies (i.e. Power Engineering Society, Industry Applications Society, etc.) Most IEEE members belong to more than one professional society.

From the RAB side of the structure, there are almost 315,000 members worldwide. The world is divided up into 10 Regions. Regions 1-6 are in the United States and comprise almost two thirds of the total membership. You are in Region 5 which consists of the Southwestern United

States (Arkansas, Colorado, Kansas, Southern Illinois, Louisiana, Missouri, Western Nebraska, Southern New Mexico, Oklahoma, Western South Dakota, Texas and Eastern Wyoming). There are approximately 30,000 members in Region 5.

Each Region is divided into Section, which are usually represented by the larger cities and/or proximity to large universities within the Region. Most large Regions are subdivided into Areas (geographical mostly, North, South, East and West).

Region 5 consists of 25 Sections in four Areas:

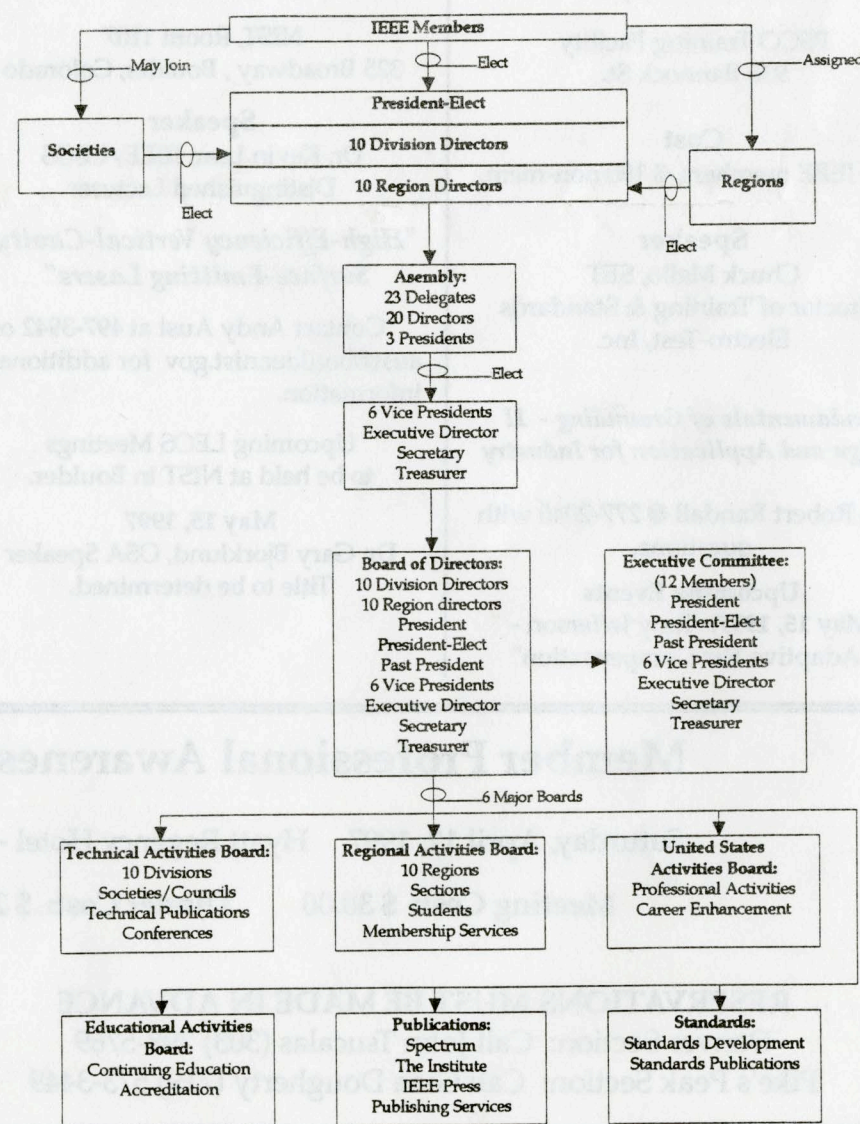
East - Arkansas, Arkansas River Valley, Baton Rouge, Beaumont, Lafayette, New Orleans, Ozark and Shreveport;

South - Central Texas, Corpus Christi, Dallas, Fort Worth, Galveston Bay and Houston;

West - Denver, El Paso, Panhandle, Permian Basin, Pikes Peak and South Plains;

North - Kansas City, Oklahoma City, St. Louis, Tulsa and Wichita.

IEEE Organization Chart
February 1, 1997



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Embedded Systems Software

David J. Farrell, P.E. FarrellDJ@aol.com
(303) 448-0160 Fax (303) 448-0158

You are in the Denver Section in the West Area of Region 5. The Denver Section is comprised of almost 4300 members.

From the TAB side of the structure, the professional societies are divided into ten Divisions. Each Division represents a broad area of technical interest as follows:

Division I
Circuits and Devices

Division II
Industrial Applications

Division III
Communication Technology

Division IV
Electromagnetics and Radiation

Division V
Computer

Division VI
Engineering and Human Environment

Division VII
Energy and Power Engineering

Division VIII
Computer

Division IX
Signals and Applications

Division X
Systems and Control

Within the ten Divisions, are 37 Societies representing very specialized areas of knowledge, expertise and technology (i.e., Lasers and Electro-Optics Society, Vehicular Technology Society, etc.) A member can join any number of Societies of his or her interest. Each large Section usually has local Chapters of some of the Societies. The Society Chapters are established and operated locally by members interested in the technology represented by the Society. Often the local Society Chapter is associated with a dominant industry in the area (i.e., the local Magnetics Society enjoys much participation from the employees of Storage Technology Corporation). Within the Denver Section there are 11 local Society Chapters which meet regularly.

Next month I will go into more detail about the structure of the Denver Section and its local Society Chapters.

Looking for Consultants?

IEEE-USA's Directory of Electrotechnology Consultants is a must for any company or institution that uses technical or management consultants. The Directory lists independent consultants who are operating as sole practitioners or in small businesses and also gives detailed information regarding specific areas of expertise.

Prepared by the Coordinating Committee of the Alliance of IEEE Consultants' Networks, the **Directory** is available as a searchable database on the Web at www.ieee.org/consultants.

Or, for a free hard-copy version, contact Bill Anderson at:



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Do Your Electronics Technicians Need More Training?

Send your electronics technicians to Arapahoe Community College. You'll find their training program to be affordable, efficient and effective. The three-year, associate degree, evening program is paced to accommodate a full-time work schedule. Well-equipped labs and faculty with years of experience in industry assure that graduates will possess the knowledge and skills necessary to become a productive team member. Technicians are trained to build, test, trouble-shoot and repair circuits and systems.

ACC can also partner with you in training your electronic technicians through our certified industrial apprenticeship training program in electronics technology. Apprentices receive their classroom training through the College and gain hands-on training in an on-the-job work setting at your location.

If you'd like more information about the electronics training options at Arapahoe Community College, call 797-5717.

Upgrading Your IEEE Membership Status

by Clifton J. Alston, Vice Chair, Member Services

The Best Opportunity for Peer Recognition, Professional Advancement, Personal Satisfaction

Your Denver Section is initiating a program to increase and facilitate participation in upgrades to IEEE Senior Member and Fellow member grades. Just as the recent *The Institute* newsletter featured an article documenting membership levels for women in the IEEE, recent unofficial statistics on our section indicate lower than expected membership at the Fellow and Senior Member grades. Whether or not this informal survey accurately represents the section membership status is beside the point. Our members deserve to enjoy all the benefits of the IEEE, particularly the recognition, the advancement and the personal satisfaction

enjoyed by qualified engineers, scientists, educators, technical executives and accomplished practitioners. Only five years of significant performance are required to qualify for membership upgrade. This professional performance might include engineering, publications, management, education or other professional contributions.

Your career is a prized possession, and your technical accomplishments are the credentials for a membership upgrade. Reviewing these credentials is a critical step in career planning activities, whether preparing for a performance review, completing a

business proposal or searching for a new position. Review your accomplishments now and compare them with the following qualifications:

- Substantial engineering, responsibility or achievement; or
- Publication of engineering/scientific papers, books or inventions; or
- Technical direction or management of important scientific/engineering work with evidence of accomplishment; or
- Recognized contributions to the welfare of the scientific/engineering profession; or
- Development/furtherance of important scientific/engineering courses in a "recognized education program".

The above are requirements to be met in your application for upgrade to Senior Member. In addition, the IEEE bylaws accept contributions equivalent to the above in areas such as technical writing or patent prosecution/law, provided such contributions serve to substantially advance progress in designated fields. An upgrade to the member grade of Fellow requires nomination. I hope all qualified members will consider the benefits and apply for member upgrade. Contact me for more information, or contact any member of the section's Executive Committee, listed in the RockIEEE Overlook, to obtain application forms. Take advantage of this opportunity to upgrade your career now.



1365 Garden of the Gods Road, Colorado Springs, CO 80907 - PHONE (719) 548-1200 / FAX: (719) 548-1393

We're creating the technology that will change the way the world communicates. Our focus is on developing and commercializing the unique digital radio technology that earned Omnipoint a prestigious Pioneer's Preference award from the FCC. Our approach is to combine the best techniques from around the globe including world standard GSM with our innovative spread spectrum technology to build the next generation of high-performance, low-cost PCS radio systems.

Our exceptional growth has created the following opportunities at our Colorado Springs, CO facility:

Senior Software Engineer

Must have at least a BS degree in Electrical, Electronic Engineering or Computer Science or equivalent degree. Documented evidence of knowledge of link and network protocols and switching systems and documented evidence of knowledge of GSM handset systems and software development using a structured or object oriented methodology. Duties are to lead, train and supervise up to three software engineers in developing PCS technology and products. Responsible for cellular and PCS protocol implementation, ISDN and GSM call processing applications, voice/data integration using embedded systems software and tools. Consult other groups on GSM handset software and systems. Manage and work with external suppliers for GSM software and systems for wireless voice and data services. Consult in the handset man-machine interface specifications and design. Specify and design the software test environment and systems.

Wireless Packet Data Systems Engineer

Must have at least a BS degree in Electrical or Electronics Engineering. Documented evidence of a minimum of two years experience working as a systems engineer to develop wireless systems and protocols. Must also have documented evidence of knowledge of link and network protocols and switching systems. Duties will be to develop PCS system architectures including conceptualization, technical feasibility analysis and comparison for a PCS based, wireless packet data system. Generate system requirements and system architecture specification documents using marketing/product planning input as well as design constraints. Provide consulting to design and test teams regarding the implementation of system design proposals. Evaluate international telecommunications standards and national requirements applicable in the development of PCS system architectures.

Network Systems Engineer

Must have at least the equivalent of a BS degree in Electrical or Electronic Engineering, Computer Science or related area of study. Documented evidence of a minimum of two years experience working as a systems engineer in one of the following areas: Network Sub-System (NSS), MSC, HLR and SMS platforms; or standard telephony protocols and architectures such as ISDN, SS7, telco switches or BSS areas, BSC and BTS. Must also have documented evidence of knowledge of link and network protocols and switching systems in a wireless environment. Duties will be to define the base station sub-system and OSS systems architectures and protocols for wireless telecommunications networks using spread spectrum radio technology. Utilize the current BSS and OSS technical standards specified by the ETSI for GSM. Responsible for developing system requirements, system designs, interface and protocol designs for PCS wireless products.

Wireless System Architect

Must have at least a BS degree in Electrical or Electronic Engineering or equivalent degree. Documented evidence of a minimum of two years experience working as a systems engineer in at least one of the following wireless/cellular systems areas such as GSM, CDMA or IS-54, or data communications such as ISDN, modems, circuit-switched data services. Documented evidence of knowledge of link and network protocols and switching systems in a wireless environment. Duties include NSS systems architecture definition for wireless telecommunications systems using spread spectrum radio technology. Utilize current network standards ETSI (4 series and 8 series standards) in the areas of wireless call establishment, registration, hand-off, authentication, encryption, Short Message Service (SMS) and bearer data services. Compare, evaluate and recommend technical methods to enable wireless data services.

Qualified candidates may send letter of interest and resume to Nina Bettencourt, Omnipoint Corporation, 1365 Garden of the Gods Road, Colorado Springs, CO 80907 or FAX (719) 548-1892.

Newsletter Deadlines and Advertising Information

Deadlines for the RockIEEE Overlook are as follows.

Newsletter	Deadline
April 1997	February 28, 1997
May 1997	March 28, 1997
June 1997	No Issue
July 1997	No Issue
August 1997	No Issue
September 1997	July 25, 1997
October 1997	August 29, 1997
November 1997	September 26, 1997
December 1997	No Issue
January 1998	November 28, 1997
February 1998	December 26, 1997

Send ads to Anita Wanberg, P.O. Box 4056, Englewood, CO 80155-4056 or call (303) 220-8042. Make checks payable to IEEE Denver Section.

Artwork should be submitted in camera-ready form (PMT). Please accompany all artwork with a check and a letter stating the number of times and dates the ad should be run. Ads should fit **within** the dimensions listed below.

Description	Dimensions	Single Rate	Multiple
Business Card	2.5" w x 1.5" h	\$ 25.00/mo.	\$ 20.00/mo.
1/8 page	3.5" w x 2" h	60.00/mo.	50.00/mo.
1/4 page	3.5" w x 4.5" h	150.00/mo.	130.00/mo.
1/2 page	7.5" w x 4.5" h	250.00/mo.	225.00/mo.
Full page	7.5" w x 9.5" h	400.00/mo.	360.00/mo.
Inserts	8-1/2" w x 11" h	250.00/pg.	200.00/pg.

The Institute of Electrical and Electronics Engineers - Denver Section

<http://www.engr.du.edu/ieee/densec.html>

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 1-800-678-IEEE (4333). We can not change this information in the Denver Area.**

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