Chairman's Message
by Gary Petersen

The next time you look into a mirror, will a "typical" IEEE member be looking back at you? Chances are, you have no idea what a typical IEEE member looks like, especially since there are no longer tell-tale slide rules hanging from our belts.

The IEEE United States Activities Board (USAB) completed a 1989 IEEE U.W. Membership Salary & Fringe Benefit Survey of random active higher-grade members. Based on this survey, USAB developed the following profile of a "typical" U.S. IEEE member.

The typical IEEE member is male, white, and employed full time working in private industry. He has been with his current employer five and a half years. His company employs more than 500 people. He worked for his former employer for two and a half years. He has 13 years' professional experience. He holds a BSEE and participates in employer-offered training. He has no certification. He is a U.S. citizen, 40 years old, with no physical or medical impairments. The funding for his employment is probably not dependent on the government. He holds a Member grade in the IEEE.

He is employed in his primary area of technical competence which is Power Engineering, Communications, or Computers. He holds an engineering responsibility level of 5 or 6. This is equivalent to a GS12 or 13 in government or an Associate or Full Professor in academia. He does not own all or part of his firm. He is not looking for a new job.

He has a mean salary of $56,000. This amount has the same purchasing power as the $19,200 earned by the typical IEEE member in 1971. He would earn more if he were a Registered Professional Engineer. He and his family enjoy an array of health benefits, including life insurance, disability coverage and dental care. Most likely he does not have eye care coverage. His retirement plan is of the defined-benefit type and there is a good chance he participates in a 401(k). His employer also is likely to sponsor a credit union. He hopes to retire with income equal to 60 percent of his current salary.

Compared to the typical IEEE member found in earlier surveys he is younger, but similar in most other respects. Looking back to 1971, his pay is keeping up with inflation; this was not true in every year since 1971.

If you would like more information on salaries and fringe benefits, you can order a copy of the complete survey from the IEEE Service Center.
Joint PES/IAS
Power Engineering/Industry Applications
Wednesday, February 20, 1991
Brooklyn's Saloon and Restaurant, 572-3999
2644 W. Colfax, Denver (under the viaduct)
6:00 p.m. Social
7:00 p.m. Dinner (optional @ $10)
8:00 p.m. Meeting

Speakers
Duane Torgerson
Electrical Engineer
Substation Design Division
Western Area Power Administration

"Virginia Smith Back-to-Back DC Converter Station"
The back-to-back high voltage direct current (HVDC) facilities located in Sidney, Nebraska were dedicated on August 28, 1990 as the Virginia Smith Converter Station (SCS) in honor of Congresswoman Virginia Smith of Nebraska. Commissioned and in operation since 1988, the SCS provides an electrical link between the eastern and western power grids at Sidney, Nebraska. The east and west alternating current (ac) networks that connect to the SCS are comprised of large generation and transmission systems operated asynchronously. Although the ac systems are large both electrically and geographically, the relative weakness of both ac networks at Sidney, Nebraska required the use of special equipment and control features to allow a successful interconnection. Additionally, the SCS is operated as an unattended facility with control via a microwave communication link from a dispatch center located approximately 150 miles away in Loveland, Colorado.
The presentation will review several of the key criteria that establish operating boundaries for the facilities, a description of the major equipment items, and a summary of the operational experiences during the past three years.

Power Electronics Chapter
Thursday, February 21, 1991
Please call Clyde Manning, 682-6492, for the room number and other information.

EMC
Electromagnetic Compatibility Society
February 19, 1991
National Institute of Standards and Technology
325 Broadway, Boulder, Room 1103
7:00 p.m.
Speaker
Bud Taggart
President, Taggart Enterprises
"EMC Metrology in the USSR"

Everyone is welcome. For more information call Mark Lapchak, 773-4626 or Ev Evans 761-9447 for more information.

Joint CS/IT
Computer Society/Information Theory Society
Thursday, February 21, 1991
Solbourne Computer, Inc.
1900 Pike Road
Longmont, Colorado
7:00 - 9:00 p.m.
(Meet at main lobby. From Boulder, take Hwy. 119 to Hover Rd. in Longmont, go south to Pike Rd., east to Solbourne facility. From Denver, take I-25 to exit 235 (Hwy. 52), go west to Hwy. 287, north to Pike Rd., west to Solbourne facility.)

Speaker/Tour Hosts
Dave Barach, Shah Bhatti, Allan Snell, John Salmi, Pete Ostdiek
Solbourne Computer, Inc.
"Symmetric Multi-Processing"

Dave Barach, chief architect of Solbourne’s Symmetric Multi-Processing (SMP) Implementation, will address issues concerning symmetric multi-processing in general and the UNIX OS in particular. The discussion will be followed by a Solbourne product demonstration and tour of facilities.
Please call Rory Laithe at 924-7534 or Shah Bhatti at 678-4744 for reservations.
ON THE OUTSIDE LOOKING IN?

Discover the advantages of belonging to the world’s largest professional technical society—The Institute of Electrical and Electronics Engineers, Inc. Join us!

FOR A FREE IEEE MEMBERSHIP INFORMATION KIT USE THIS COUPON:

Name: ____________________________
City: ____________________________
State: ____________________________
Zip: ____________________________
Country: ____________________________

MAIL TO: IEEE MEMBERSHIP DEVELOPMENT
The Institute of Electrical and Electronics Engineers, Inc.
445 Hoes Lane, P.O. Box 1331
Piscataway, N.J. 08855-1331, USA (201) 676-5430

Overlook Advertising

<table>
<thead>
<tr>
<th>Ad Size</th>
<th>Rate One Time</th>
<th>Rate Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Card</td>
<td>$25.00/mo.</td>
<td>$20.00/mo.</td>
</tr>
<tr>
<td>1/8 page</td>
<td>$60.00/mo.</td>
<td>$50.00/mo.</td>
</tr>
<tr>
<td>1/4 page</td>
<td>$150.00/mo.</td>
<td>$130.00/mo.</td>
</tr>
<tr>
<td>1/2 page</td>
<td>$250.00/mo.</td>
<td>$225.00/mo.</td>
</tr>
<tr>
<td>Full Page</td>
<td>$400.00/mo.</td>
<td>$300.00/mo.</td>
</tr>
<tr>
<td>Insert: 8-1/2 x 11</td>
<td>$200.00/mo.</td>
<td></td>
</tr>
</tbody>
</table>

Business card ads must be actual business cards. All other ads should be provided in camera-ready format or additional set-up charges may apply. Inserts must be provided (quantity approx. 3025) and delivered to the printer.

Deadlines

April 1991 Newsletter - March 6, 1991
May 1991 Newsletter - April 5, 1991

Please make checks payable to Denver Section IEEE. Send business card or ad copy and check to: Anita Wanberg, dba Trade Services, P.O. Box 4056, Englewood CO 80155-4056, (303) 220-8042.

International Conference on Communications

ICC-91

June 23-26, 1991, Sheraton-Denver Tech Center

Come and join us for an excellent technical program at the 1991 International Conference on Communications and Exhibition. Sunday, June 23rd through Wednesday, June 26th at the Sheraton DTC, Denver, Colorado.

The ICC ‘91 Conference will have a full schedule of tutorials during the conference, and a full-day workshop on Thursday after the conference. The workshop includes a luncheon for attendees. Participation in each tutorial and in the workshop will be limited to ninety attendees.

Tutorial #1: Taking Advantage of the IEEE 802.6 MAN Standard

This tutorial will cover Metropolitan Area Network (MAN) Technology, the IEEE 802.6 standard and applications including SMDS service. It will include comparisons with other technologies such as FDDI and Frame Relay and explore the implications of global connectivity that should eventually allow a user to treat the MAN as a worldwide multimegabit network.

Tutorial #2: Wireless CPE

This tutorial will outline the issues and general principles for designing low-power wireless communications systems, with a presentation of international standards, in the context of an evolution toward seamless Personal Communications Systems (PCS). The tutorial concludes with an analysis of various system architectures proposed for providing wireless office, residential, and public services.

Tutorial #3: Challenging the Quality Awards

This tutorial examines the use of the Quality Process and the Quality Awards as a means of achieving excellence. By learning from companies that have challenged for or won the Malcolm Baldrige National Quality Award and the Japanese Deming Prize, much insight can be gained into the benefits of using the award criteria for developing a quality-conscious, employee-oriented culture.

Tutorial #4: Visual Communications

This tutorial will review the state of the art in digital image processing, particularly as it relates to the JPEG, MPEG, and H.261 standards for video and still-image compression. The tutorial will also depict potential applications in the home, business, and school environments, and present advances in network architecture concepts that will provide the connectivity for the anticipated explosive growth in visual communications.

Tutorial #5: In-Building Radio Systems

This tutorial will address radio propagation, modulation, multiple-access techniques, and communications systems design as they apply to in-building radio communications. Examples of several in-building communication systems will be presented, and some of the recent standards activities will be reviewed.

Tutorial #6: Broadband Fiber Technologies in the ’90s

This tutorial provides an overview of the evolving multimegabit broadband fiber communications technologies of the ’90s. It will discuss BISDN, Asynchronous Transfer Mode (ATM), SONET, Distributed Queue Dual Dus (DQDB) for MAN applications, SMDS, and FDDI.

Workshop: Critical Transition Strategies for Fiber to the Loop

This workshop will focus on the important issues regarding the deployment of fiber into the Loop plant. Invited speakers will describe their views on how the transition from today’s Loop topology and media will evolve. These presentations will be given by individuals representing the following areas or organizations: researchers, exchange carriers, equipment suppliers, international PTTs, regulators, and cable television operators. Since there will be no published record, presenters and attendees will be able to actively discuss issues, new ideas, opinions, and future implementations with openness and candor.

For further information, please contact IEEE ICC ’91, c/o John Tary, P.O. Box 33558, Northglenn, Colorado, 80233-0558. (303) 452-611 ext. 443 (w), FAX (303) 457-0207.

The joint PES/IAS Society Chapter in Denver has offered tutorials for several years. Past subjects have included "Industrial Power Systems", "Symmetrical Components", "Transformers", "Induction Motors", and "Personal Protective Grounding". The tentative schedule is listed below. Look for details on registration in future newsletters.

Future Meetings

March 21, 1991
"Geomagnetic Induced Currents"

April 18, 1991
IEEE Denver Section All Chapters Meeting
Topic to be announced

May 16, 1991
Tour of New Public Service Co. of Colorado "Gas Insulated Substation" in Downtown Denver

CHM HILL

COMPLETE ENGINEERING SERVICES
• Transmission and Distribution Design
• Planning Studies
• Rates
P.O. Box 2598
Denver, Colorado 80202
(303) 571-5544
Web site: http://www.chmhill.com

Bank of America

Thank You

IEEE Denver Section would like to sincerely thank the advertisers whose ads have been published in the RockIEEE Overlook.

We appreciate your participation!

SCHEDULE OF MEETINGS

February 2-8, 1991
Crested Butte Aerospace Applications Conf.

Aerospace Applications Conf. Conf. Leo Mallette (213) 334-2909

April 12-14, 1991
Laramie Region 5 Conference

Region 5 Conference Region 5 Conference Richard Day (714) 963-0939

April 28 - May 2, 1991
Boulder PES Substation Com. Mtg.

PES Substation Com. Mtg. George Flagg (303) 452-6111

June 23 - 27, 1991
Denver International Communications Conf.

International Communications Conf. Russ Johnson (303) 795-9100

October 10-11, 1991
Denver Careers Conference

Careers Conference Bill Whispey (303) 830-4713

May 11 - 13, 1992
Denver Vehicular Technology Conf. (VTC '92)

Vehicular Technology Conf. Don Cottrell (303) 871-3752

October 7-11, 1991

Ant. Meas. Techniques Assoc. Mike Francis (303) 497-5873

September 10-14, 1995
Denver Petroleum & Chemical (PCIC)

Petroleum & Chemical (PCIC) Paul Meisel (303) 469-2161

July, 1996
Denver PES Summer Meeting

PES Summer Meeting John Nelson (303) 431-7895

May 1997
Denver MTI

MTI John Bamick (303) 969-0391

Proposed Conferences and Meetings

International Conference on Harmonics in Power Systems (ICHPS) 1994

PES Joint Power Generation 1994

ESMO 1996

Sections Congress 1996

Transmission & Distribution 1997

ITC 2000

-rockymountainlab.com-
The Institute of Electrical and Electronics Engineers - Denver Section

Executive Board

Chairman
Gary A. Peterson
Public Service of CO
5525 E. 38th Ave.
Denver CO 80207
329-1506

Sr. Vice Chairman
H. Paul Meisel
Microsemi Corp.
800 Hoyt St.
Broomfield CO
80020
469-2161

Vice Chairman
Members Services
Donottrell
Engineering Dept.
University of Denver
Denver CO 80208
871-3752

Vice Chairman
Student Activities
Doyle Ellerbruch
Metro. State College
P.O. Box 173362
Denver CO 80217
556-4007

Secretary
John Barnick
ABB Power T&D
3900 S. Wadsworth
P.O. Box 272050
Lakewood CO 80227
969-0333

Treasurer
Lew Beck, Jr.
Peterson Company
4949 Colorado Blvd.
Denver CO 80216
388-6322

Past Chairman - John R. Reesy, 755-1720
Professional/Industrial Liaison - Dennis Edwardson, Black & Veatch Engineers, 671-4245
Student Branch Activities - Michael Meister, National Telecommunications and Information Administration, 497-6571

Executive Committee (Includes Executive Board)

Standing Committee Chairman
Society Chapters - Ray Jukkola, EMC Engineers, 988-2951
Educational Activities - Pandjel K. Sen, EE & CS Dept., Univ. of CO Denver, 556-2872, 556-2685
Conferences - John Tany, Tri-State Generation and Transmission Association, 452-6111
Awards - Keith Henderson, Electric Power Testing, 428-1655
Student Fund - Diana Lindstrom, 422-9374

Professional Activities - Darrell Sebatka, Public Service of CO, 329-1547
Nominations - John R. Reesy, 755-1720
Membership - Don E. Lindahl, Siemens Energy & Automation, 770-7907
Pre-College Student Activities - Dan Michaels, Ball Aerospace, 939-5139

Executive Committee (Ex-Officio Members)

Subsection Chairman
Black Hills - R.D. McNeil, Electrical Engineering Dept., South Dakota School of Mines & Technology, Rapid City, SD, 57701, (605) 394-2452
Centennial - Sadru Ula, Electrical Engineering Dept., University of Wyoming, Laramie, WY 82071, (307) 766-6268

Senior Past Chairman Keith Henderson, Electric Power Testing, 650-2218

The Institute of Electrical and Electronics Engineers
Denver Section
P.O. Box 4056
Englewood, CO 80155-4056
Phone: 220-8042

The Month at a Glance

February 3-8, 1991
Aerospace Applications Conference

February 7, 1991
Magnetic Society Meeting

February 8, 1991
Front Range Software Quality Meeting
PES/IAS Tutorial "System Harmonics"

February 19, 1991
EMC Meeting

February 20, 1991
PES/IAS Meeting

February 21, 1991
Power Electronics Meeting
APP/MTT/GRS Meeting
CS/ITS Meeting

Non Profit Org.
U.S. Postage
PAID
Denver CO
Permit No. 1993