



THE INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS, INC.

Rock IEEE Overlook

Denver Section

May, 1989

Annual Awards Banquet and Election of Officers

Wednesday, May 10, 1989

The Annual Denver Section Awards Banquet will be held at Brooklyn's (2644 W. Colfax Ave., near McNichols Arena). Your spouse or guest is also invited to what will be an enjoyable social evening.

A special invitation has also been extended to past Denver Section Chairmen and Fellows of the Denver Section. Please join us for this important occasion.

Dinner will be followed by the awards Program which will honor deserving members of our Section and recognize outstanding society chapters for their performance.

Election of 1990 Denver Section Officers will follow. Those nominated by the Denver section Executive Board are as follows:

Chairman: John R. Reesy

Senior Vice Chairman: Gary A. Petersen

Vice Chairman, Member Services: H. Paul Meisel

Vice Chairman, Student Activities: Don Cottrell

Secretary: J.A. Tony Thomas

Treasurer: Lewis A. Beck Jr.

Social Hour - 6:00 p.m.

Dinner - 7:00 p.m. (Cost - \$12.00)

Reservations required. Please call Peggy Alcaez, (303) 480-6966, by Monday May 8, 1989. You need not have dinner in order to attend the Awards Program.

IEEE Colorado Chapter wishes to express sincere appreciation for sponsoring and providing assistance with our database to:
PUBLIC SERVICE COMPANY OF COLORADO

Society Chapter Information

Please cancel your reservations if you are unable to attend a meeting (including the Section meetings). No-shows will be responsible for the cost (if any) of dinner.

Computer Society Videoconference

May 3, 1989

"Concurrent Engineering of Both Product and Process: A New Challenge"

This videoconference will present some radically different ideas: What generates costs and who is responsible for it? What can be done to reduce it? When in a product development cycle should these ideas be implemented? And finally, a prediction of what the future holds.

Call Rory Laiho, 924-7534, or Sandy Bish, 538-4717, for more information.

Reliability Society Denver Chapter

7th Annual Software Symposium

May 12, 1989

Ford Aerospace Corporation
10550 State Highway 83
Bldg. 2, Auditorium
(Briargate Exit off I-25)

8:30 a.m. - 4:00 p.m.

For reservations contact:
Juan Hernandez (719) 590-8880 x 410
Ron Watts (719) 548-2294
John Pietrolowicz (719) 594-1544

CS/ITS Computer/Information Theory

Thursday, May 18, 1989

KRMA-TV Channel 6
1261 Glenarm Place

In the Emily Griffith Opportunity School
Auraria Parkway Exit to Downtown, South on
Speer Blvd. to Colfax, L. on Colfax, L. on
Glenarm to 13th St.
Street parking available.

Speaker
Jim Gale

"Computer Applications in Video Technology"
A presentation on digital optics and video
manipulation (etc.) followed by a tour.

Reservations required
Call Rory Laiho, 924-7534.

Joint PES/IAS Power Engineering/Industry Applications

Thursday, May 18, 1989

Brooklyn's, 2644 W. Colfax Ave.
6:00 p.m. Social
7:00 p.m. Dinner (optional @ \$10)
8:00 p.m. Meeting

Speakers

Ernie Poggi, Leo Barrios, and Stan Lawrenson
Tri-State Generation and Transmission

"Micro-Processor Based Distance Relaying"

A discussion and demonstration of various
micro-processor based relaying packages from
a utility point of view rather than the man-
ufacturer.

Please contact Barbara at Peterson Company,
388-6322, by Monday, May 15.

Joint AP/MTT/GRS Antennas and Propagation, Microwave Theory and Techniques, Geoscience and Remote Sensing

Thursday, May 18, 1989

National Bureau of Standards
325 Broadway, Boulder, Room 1103
4:00 - 5:00 p.m.

Speaker

Dr. Arnold Silver
Distinguished Lecturer for 1988-89, MTTs
TRW Space & Technology Group
Redondo Beach, California

"Microwave and Gigabit Superconductive Electronics"

This lecture will review the fundamen-
tal and historical development of supercon-
ductive electronics which combines the
fundamental properties of superconductors,
the superconducting Josephson tunneling
diode and the cryogenic environment required
for superconductivity to achieve superior
signal processing circuit from ddc to the
submillimeter-wave region and the fastest
digital logic and memory. Dr. Silver will
discuss the performance and application of
such components as quantum-noise limited mi-
crowave and millimeter-wave amplifiers, mix-
ers, and video detectors, voltage-controlled
oscillators, analog correlators and con-
volvers, and analog-to-digital converters.




(cont.)

Jim Gale is New Editor

Please welcome Jim Gale as the
RockIEEE Overlook Editor. Jim is an
EE in the Engineering Department at
KRMA-TV Channel 6. Welcome aboard
Jim!

Colorado Science Olympiad

The National Science Olympiad
will be held on May 19th and 20th
at the University of Colorado, Boulder
campus. Students from 46 states will
be participating.

 <p>MICHAEL J. FOLEY</p> <p>FORENSIC ENGINEERING INC. INVESTIGATIVE ENGINEERING SCIENCES 4530 SOUTH DECATUR ENGLEWOOD, COLORADO 80110 303 730-7707</p>	<p>CHUCK GAYLORD</p> <p>GCA</p> <p>GARRETT COMPUTER ASSOCIATES System Design Software Engineering</p> <p>415 SUGARLOAF MOUNTAIN MEADOWS ROAD • BOULDER, CO 80302 303/440-0683</p>	 <p>Thomas W. Bassett, P.E.</p> <p>Power Equipment Specialists Inc. 10200 W. 44th Ave., Suite 120 Wheat Ridge, CO 80033-2838 (303) 423-2741</p> <p>Fax (303) 467-0714</p>
<p>ETI POWER - TEST Electrical Information & Testing</p> <p>P.O. Box 910 Westminster, CO 80030</p> <p>Keith N. Henderson (303) 428-1655</p>	<p>MERLE J. TUCKER THOMAS J. WALLACE IV KENNETH L. WILLIS</p> <p>CAD GRAPHICS, INC. 1602 S. PARKER ROAD # 212 DENVER, COLORADO 80231-2921</p> <p>DESIGN/DRAFTING DIGITIZING SCANNING CAD TRAINING PLOTTER EQUIPMENT & SOFTWARE SALES</p> <p>(303) 696-1991</p>	 <p>ELECTRIC POWER EQUIPMENT COMPANY SPECIALIZED ELECTRICAL CONTROLS FOR INDUSTRY</p> <p>5151 E. 56TH AVENUE COMMERCE CITY, CO 80022</p> <p>(303) 288-0751 TELEX # 857544 (EPECO DVR) FAX # (303) 288-5003</p>

Yes, I want to advertise in the **RockIEEE Overlook** and help the Denver Section defray expenses at the same time. Please place the following ad in the next issue(s) of the Overlook (circle one):

Ad Type

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Business Card	\$ 25.00/mo.	\$ 20.00/mo.
1/8 page	\$ 60.00/mo.	\$ 50.00/mo.
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1/2 page	\$ 250.00/mo.	\$ 225.00/mo.
Full page	\$ 400.00/mo.	\$ 360.00/mo.

Business card ads must be actual business cards. All other ads must be provided in camera-ready format or additional set-up charges may apply.

Advertising material must be received by the first of the month in order to appear in the next month's newsletter.

Enclosed is my check in the amount of \$_____ made payable to Denver Section IEEE. Send business card or ad copy and check to: Anita Wanberg, dba Trade Services, P.O.

1989 Area A Student Paper Contest

Don Cottrell

This year's IEEE Student Paper Contest for Area A was held last March 17th at the South Dakota School of Mines and Technology. The results against some very tough competition are:

1st Place: Shane McClelland
University of Denver
"Electrochemical Hydrogen Generator"

2nd Place: Cheryl Frierson
University of Southern Colorado
"Design of an Educational Game"

3rd Place: Brandon Coco
University of Denver
"Airplane Flap Extension/Warning System"

The IEEE students and student branches represented above were awarded \$150, \$100, and \$75 for first, second and third place, respectively. Papers were graded on such items as originality, written and presentation skill. Other entrants represented were the United States Air Force Academy, Colorado State University, Metro State and South Dakota School of Mines and Technology.

Both Shane McClelland and Cheryl Frierson will represent Area A in the Region 5 paper contest being held at Dallas, Texas on April 22nd. Congratulations and we wish them good luck in the Region 5 contest!

A Personal Challenge

Can we as individual engineers play a role in helping improve precollege mathematics and science education in the public schools? Have you taken a personal interest in how well math and science are taught in your local school system? Do you know of innovative programs that have measurably improved the skills of students?

IEEE Spectrum would like to hear about them, so that we may report on those that appear most promising. We are interested both in kindergarten-grade 7 and in grades 8-12 programs. Please send as many nominations as you wish.

As a further incentive, we plan to submit the best ideas to a jury of educators for their evaluation and additional commentary. We will ask the jury to select the "best of the best", and we will award a Hewlett-Packard Co. 28S calculator* to whoever submitted the winning nomination. A second HP 28S will go to the teacher or professional educator whose idea the winning program was.

Nominations, along with a description of the program and the name and address of the teacher/educator, should be sent to IEEE Spectrum Precollege Math/Science Competition, 345 E 47th St., New York, NY 10017.

*donated expressly for this project by Hewlett-Packard's Corvallis Division, Corvallis, OR.

Society Chapter Happenings

Paul Meisel

Control and Open Loop is one way to describe the job of Chairman of Society Chapters. Everything works fine with all Chapters operating smoothly and then a problem occurs. It is up to the Chairman to help solve the problem or direct a Chapter to the proper resources where help can be obtained.

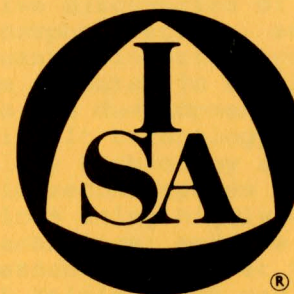
There are two society chapters which have been inactive for some time and the solution for working to activate them falls upon the chairman. The Control Society and the Engineering Management Society have been inactive for two years and this year they will be dropped unless I can find members in the Denver Section willing and able to help to reactivate them. All that is required is two meetings per year with over ten attendees. You would think that wouldn't be difficult for anyone to accomplish, but if the right volunteer can't be reached, the problem is without solution.

If you would like to volunteer to work on a committee to resurrect either of these two chapters, please call me. My number is on the back of the RockIEEE Overlook. In addition to attempting to solve these problems, I help to convince Chapters to hold meetings with the Section. The job does not consume much time, and if anyone would like to help on these activities, please call me. The rewards of meeting new and interesting engineers does make the volunteer effort worthwhile.

One of our goals has been to encourage the formation of additional Chapters in other subject areas to serve the needs of more of our Section members. The Laser/Electro Optics Society is an example. If you are not familiar with this Chapter and would like more information, please contact Arun Majumdar at 556-2715. If there are some Societies with areas of interest which are not being covered, please let me know and we'll work to form a Chapter in the Section.

Transformer and Induction Motor Notes Available

Thanks to Dr. Sen, Public Service for the classroom, and everybody else who made the recent PES/IAS tutorials a success. There were over 60 participants in one or both of the classes. Additional copies of the notes are available for \$5 each. If you are interested, please send \$5 for each set to John Barnick, Westinghouse Electric, 3900 S. Wadsworth Blvd., Lakewood CO 80235. Please specify which set of notes you want.



INSTRUMENT SOCIETY OF AMERICA DENVER SECTION FRONT RANGE EQUIPMENT ROUND-UP 1989

WHAT:

100 EXHIBITORS BOOTHS WITH STATE-OF-THE-ART INSTRUMENTATION AND AUTOMATION CONTROL PRODUCTS

WHEN:

THURSDAY, MAY 11, 1989
1:00 p.m. to 8:00 p.m.

WHERE:

REGENCY HOTEL
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THE ADMISSION IS FREE!!

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Drawing - Prizes For Preregistered

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ISA
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FRONT RANGE EQUIPMENT ROUND-UP
THURSDAY, MAY 11, 1989
1:00 P.M. - 8:00 P.M.

ISA DENVER SECTION
1921 SPRUCE DRIVE
ERIE, COLORADO 80516

DENVER SECTION
P.O. BOX 4056
ENGLEWOOD, CO 80155



(AP/MTT/GRS May 18, cont.)

Dr. Silver will also discuss the successive discoveries of flux quantization, the Josephson effect, and the Superconducting Quantum Interference Device (or SQUID, which he invented in the 1960's); its application to the development of thin film integrated circuit technology for computer use; lead alloy technology in the 1970's which led to picosecond speeds and submillimeter-wave devices using highly developed niobium circuit technology; and the recent discovery of superconductivity at temperatures as high as 95 Kelvin which may herald the widespread use of superconductive circuits. He will explore the prospects for development and application of high temperature superconductive electronics and its possible impact on semiconductor devices.

Reservations not required
For further information call Bob Seeley,
986-6790.

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Congratulations to 4 New IEEE Fellows

Four members of the Denver Section have been elected to Fellow Grade effective January 1, 1989. IEEE has recognized the professional accomplishments of the following individuals in the Denver Section:

James R. Andrews
Robert A. Kamper
Carl E. Patton
Thomas H. Williams

Congratulations to these 4 individuals for their contributions to the Electrical Engineering profession.

Joint AP/MTT/GRS

Antennas and Propagation, Microwave
Theory and Techniques, Geoscience and
Remote Sensing

Thursday, June 22, 1989

National Bureau of Standards
325 Broadway, Boulder, Room 1103
4:00 - 5:00 p.m.

Speaker

Dr. K.C. Gupta
Department of Electrical and Computer
Engineering, University of Colorado,
Boulder, Colorado.

"CAD of Microstrip Patches and Arrays"

Increasing interest in accurate design of planar microstrip patches and arrays in monolithic form has created a need for development of sufficiently accurate CAD procedures for microstrip antennas. Although several CAD packages have been developed for the design of microstrip circuits, similar tools are not available so far for patch antennas and arrays. This talk will discuss a microstrip antenna CAD approach based on Multiport Network Modeling of microstrip patches, edge fields, mutual coupling, and the feedlines.

Recent work on CAD of linear series-fed microstrip arrays sponsored by the Department of the Navy and being carried out at the University of Colorado will be presented. Areas where further research efforts are needed will be outlined.

Reservations not required
For further information contact Bob Seeley,
986-6790.

Educational Activities Department

Pankaj K. Sen, CU-Denver, EE & CS

Live Videoconferences Via Satellite Network
12:00 noon - 3:00 p.m. (Eastern time)
(one-way video, two-way audio)

1989 Topic Areas

Neural Networks - September 27
RISC - October 26
Machine Vision - November 29

For information, please contact
IEEE Educational Activities Department
445 Hoes Lane, P.O. Box 1331
Piscataway NJ 08855-1331
(201) 562-5494

or

Pankaj K. Sen, 556-2685 or 556-2872

The Institute of Electrical and Electronics Engineers - Denver Section

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Professional/Industrial Liason - **John Martin**, Public Service Company of Colorado, (retired) 233-0023
Student Branch Activities - **Charles Wright**, Public Service Company of Colorado (retired), 233-5553

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Conferences - **John Tary**, Tri-State Generation and Transmission Association, 452-6111
Professional/Industrial Liason - **John Martin**, Public Service Co. of CO (retired), 233-0023
Awards - **Charles Wright**, Public Service Company of Colorado (retired), 233-5553
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Professional Activities - **William D. Whipkey**, Amoco, 830-4713
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Membership - **Herb Bass**, Herb Bass & Associates, 530-7509
Student Fund - **Dan Michaels**, Ball Aerospace, 939-5139
Pre-College Student Activities - **Dan Michaels**, Ball Aerospace, 939-5139

Executive Committee (Ex-Officio Members)

Subsection Chairmen

Black Hills - (Acting Chairman) **Dr. Larry Simonson**, Electrical Engineering Dept, South Dakota School of Mines & Technology, Rapid City, SD, 57701, (605) 394-2459
Centennial - **Louis Thomas "Tom" Mills**, Hewlett-Packard Company, Fort Collins CO 80525, 229-3737

Society Chapter Chairmen

Aerospace and Electronics - **Henry Rackley**, Ball Aerospace, 690-1600
Electromagnetic Compatibility - **Andy Anderson**, Martin Marietta Aerospace, 971-6422
Engineering in Medicine and Biology - **Darrell Jones**, University of CO Health Sciences Center, 270-8552
Joint Antenna and Propagation/Microwave Theory and Techniques/Geoscience and Remote Sensing - **Bob Seeley**, Fortress Electronics, 986-6790
Joint Computer/Information Theory - **Sandy Bish**, AT&T Bell Laboratories, 538-4717
Joint Communications/Vehicular Technology - **John Hardzinski**, Martin Marietta Information and Communications Systems, 977-2224

Joint Electromagnetic Compatibility/Instrumentation Measurement - **Richard Groves**, Colorado School of Mines, 273-3677
Joint Power Engineering/Industry Applications - **Bob Saint**, Union REA, 659-0651
Laser & Electro Optics Society - **Arun K. Majumdar**, University of Colorado Denver, 556-2715
Power Engineering - **Kenneth McBryde**, Colorado Ute Electric Association, 249-4501
Reliability - **Dale Butler**, Martin Marietta Aerospace

Senior Past Chairman - **Michael E. Niehoff**, 480-6955

RockIEEE Overlook Editor - **James Gale**, KRMA-TV, Channel 6, 892-6666

Publication Coordinator - **Anita Wanberg**, dba Trade Services, 220-8042

The Institute of Electrical and Electronics Engineers



Denver Section
P.O. Box 4056
Englewood CO 80155-4056
Phone: 220-8042

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The Month at a Glance

May 3, 1989

Computer Society Videoconference

May 10

Annual Awards Banquet

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Reliability Society Software Symposium

May 18

CS/ITS Meeting
PES/IAS Meeting
AP/MTT/GRS Meeting

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