

RockIEEE Overlook

Newsletter of

April 1992



**The Institute of
Electrical and Electronics Engineers
Denver Section**

IEEE Denver Section/ All Chapters Meeting

When

Wednesday, April 15, 1992
6:00 Social 7:00 Dinner 8:00 Program

Where

Holiday Inn Holidome, Juarez Room
10 East 120th Ave., I-25 and 120th, Northglenn

Speaker

Dr. Frank Barnes, University of Colorado

"Electric and Magnetic Fields - What We Know . . . What We Need To Find Out"

Dr. Barnes is a well known expert in electric and magnetic fields
and has an extremely interesting presentation.

Dinner Cost - Members and Guests - \$14, Students 1/2 price.

Call Anita Wanberg, 220-8042 for reservations by noon on Monday, April 13, 1992.
Please let Anita know if you will be there for the meal or just for the meeting.

**THANK-YOU to John Tierney at Public Service Company of Colorado for his effort in
working with the Denver Section membership database.**

Society Chapter Meetings and Information

Joint PES/IAS Power Engineering/ Industry Applications

Wednesday, April 15, 1992

PES/IAS will not meet in April other than during the Section All Chapters meeting. Please see the front page of the RockIEEE Overlook for further details of the meeting.

Magnetics Society

Wednesday, April 22, 1992

5:30 - 6:30 p.m.
Kaizen Conference Room, Building 6
Storage Tek
Louisville, CO

Speaker

Dr. John O. Oti
Electromagnetic Technology Division
National Institute of Standards and Technology
Boulder, Colorado

"Micromagnetic Calculations of Dual-Layer Recording Media"

This talk describes a dynamic micromagnetic model of dual-layer media which permits modeling of layers which may have different geometric and magnetic properties. The results of applying this model to the calculation of hysteresis curves and structures of recorded bits are presented. A comparison is also made between calculated results and experimental data.

Attendees must collect their badges
at the visitor's center.

For more information, contact Subrata Dey, 673-6494.

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

Thursday, April 23, 1992

4:00 - 5:00 p.m.

National Institute of Standards and Technology
325 Broadway, Room 1103
Boulder, CO


Speaker

Dr. R.P. Vidano
Member IEEE
Ball Aerospace Systems Group
Broomfield, Colorado

"Developments in Microwave and High Speed Digital Packaging"

Developments are presented for packaging of GaAs Monolithic Microwave Integrated Circuits (MMIC) and GaAs Large Scale Integrated Circuits (LSIC). Issues with respect to controlled impedance interconnect structures in multilayer substrates are presented from the vantage point of design and advanced materials. Also, important considerations with respect to heat removal, mechanical stability, and reliability are discussed.

Please call Ron Vidano at Ball Aerospace, 460-2001
if you have any questions.

 STEPHEN C. SPENCER, P.E. Director, Electric Systems Engineering	
Direct (303) 299-5327 Main (303) 299-5200 Fax (303) 297-2811	R.W. BECK AND ASSOCIATES
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Chairman's Message

by Paul Meisel

One major problem for the Section Chairman is writing this message long before the events are to occur and before more current ones have taken place. However, on April 15, the Denver Section will meet with all chapters for a dinner meeting. This announcement is on page one of the RockIEEE Overlook with the date, time, and location.

Also occurring in April is the Region 5 meeting for planning and sharing ideas with other Sections in the region. This will be held in San Antonio this year. There will be plenty of opportunity for obtaining solutions to problems and for providing assistance to other sections from our own experiences. There will be student paper presentations at this meeting and we hope that some students from our universities win the contest. An officer from the Denver Section will attend.

In May, we will honor, at our Awards Banquet, engineers elected recently to the grade of Fellow in our Section. There is always some suspense at this meeting

Black Hills Subsection Meeting, April 9, 1992

To: IEEE Black Hills Subsection Members and other
interested parties

From: IEEE Black Hills Subsection

Meeting

Program: 1. Discussion of Member Survey results.
2. Outline of next year's program and meetings.

Location: Hilton Hotel, Rapid City, South Dakota

Date & Time: Thursday, April 9, 1992
7:00 p.m.

Please contact Mike Pendo at (605) 394-5278 for
reservations.

until the outstanding chapter of the year is announced. Although this will be the last section meeting before summer, planning continues throughout the summer on programs for the fall.

Soon we will start to get some feedback from the Long Range Planning Committee. They were charged with finding long term solutions to major leadership problems. RockIEEE Overlook financial and timeliness problems and other organization problems. The solutions should permit us to operate effectively with little update required for the next three to five years.

Whenever any member has suggestions for improvement on any aspect of the Denver Section, we want you to make your input to any officer.

FRSWQC Front Range Software Quality Committee of the Reliability Society

Friday, April 10, 1992

2:00 - 4:00 p.m.
Storage Technology, Building 4
Louisville, Colorado

Speaker

Gitta Domik
Department of Computer Science
University of Colorado

"Visualization of Scientific Data -- Concepts and Pragmatics"

During the last five years scientific visualization has found a multitude of new applications that confirm the necessity and power of this new methodology. In spite of a focus on visualization, an agreement on concepts and models as well as quantitative and qualitative measures of its "usefulness" are still missing. The talk will discuss current visualization concepts and models and emphasize the need for a better formal understanding of mapping numerical values to visual representations.

For more information, call Rick Karcich at 673-6223.

3 New Fellows Elected Congratulations !!!

The Denver Section is pleased to recognize and congratulate three of our members who have recently been elected to Fellow Grade. The grade of Fellow is the highest grade attainable by an IEEE member, and recognizes unusual distinction in the electrical engineering profession.

The members elected are:

Delores M. Etter, University of Colorado

(Signal Processing Society)

For contributions to education through textbooks for engineering computing, and for technical leadership in the area of digital signal processing.

Juan A. Rodriguez, Exabyte Corporation

(Computer Society, Magnetics Society)

For technical leadership in the development of computer data storage devices.

Dr. Richard G. Strauch, NOAA

For developments in radar and radar-acoustic sounding systems for atmospheric wind and temperature profiling.

Congratulations to these three individuals for their hard work and dedication to furthering the objectives of IEEE.

Overlook Advertising

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Full Page	\$ 400.00/mo.	\$ 360.00/mo.
Insert 8-1/2 x 11	\$ 200.00/mo.	

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. 4225) and delivered to the printer.

Deadlines for 1992-1993

May 1992 Newsletter - April 1, 1992

September 1992 Newsletter - August 3, 1992
October 1992 Newsletter - September 1, 1992
November 1992 Newsletter - October 2, 1992
January 1993 Newsletter - December 1, 1992

February 1993 Newsletter - January 1, 1993
March 1993 Newsletter - February 1, 1993
April 1993 Newsletter - March 1, 1993
May 1993 Newsletter - April 2, 1993

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

ICE '92



INSTRUMENT & CONTROL EXPO MAY 6-7, 1992

Exhibit

WHAT: 120 Booths with state-of-the-art instrumentation, control and automation products

WHEN: May 6 & 7, 1992
Wednesday - 10:00 a.m. - 7:00 p.m.
Thursday - 9:00 a.m. - 4:00 p.m.

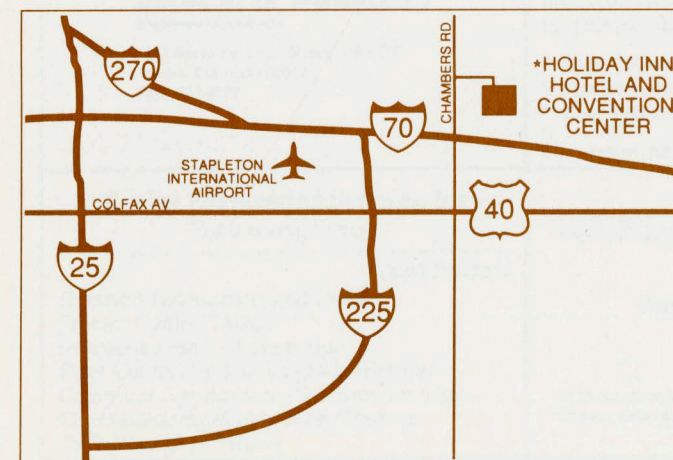
WHERE: John Q. Hammons Trade Center
at the Holiday Inn, I-70 and Chambers Rd.

Exhibit Admission Free !!

Technical Sessions

Informative technical sessions on data acquisition, remote control, PLC's, software development, flow measurement and other timely topics will be taking place throughout exhibit hours. Cost will be \$65 for all sessions.

Sponsored by Instrument Society of America, Denver Section



Call **Anita Wanberg, 220-8042** for more information and for technical session schedules.

For registration call:

Jean Jamieson or Christie Schuman
Allen-Bradley Company
(303) 279-6444

* Plenty of parking at the John Q. Hammons Trade Center, entrance on east side of hotel, 20 minutes from downtown, 20 minutes to Denver Tech Center. (303) 371-9494.

Chapter Activity

by Ray Jukkola

This is an update on chapter activities for the Denver Section.

Good News - New Chapter

Several officers of the Denver Section met with Jorge Aunon, Dean of Electrical Engineering at Colorado State University, to discuss setting up a chapter in the Fort Collins area. This chapter would address the need for local meetings in the Fort Collins area. The March RockIEEE Overlook gave a summary of this activity.

Alarming News - Disbanding Chapters

Due to a lack of member support and chapter officer involvement, the following chapters will be removed from the Headquarters active chapter listing and removed from the Society Chapter listing on the back of the RockIEEE Overlook.

Recognized Chapters to be disbanded:

- Aerospace & Electronics (AES) - 248 members
- Instrumentation & Measurements - 90 members

Unofficial Chapters to be disbanded:

These were never official chapters but were supported by the Denver Section as potential chapters and treated as if they were active chapters.

- Laser & Electro Optics - 93 members
- Power Electronics (PEL) - 48 members

Summary

It is unfortunate that these Chapters have to be disbanded due to the fact that the membership has not indicated a specific area of interest. IEEE headquarters has two meetings a year as the minimum requirement for active chapter status which could not be maintained in these cases.

The Section Chapters Representative may be contacted regarding information on how to restart a chapter.

The Executive Board decided that instead of trying to keep these dormant chapters active, efforts will be expended to help several other struggling chapters.

Remember, the Chapters need your support in program attendance, meeting ideas, program assistance, tours, seminars and participation as Chapter officers.

Attendance at an IEEE chapter meeting is educational, a place to meet new friends, and a place to expand professional acquaintances and learn about employment opportunities.

<div>DENNIS A. EDWARDSON Director, T&D Services</div> <div>Black & Veatch Engineers-Architects</div> <div>1400 South Potomac Street, Suite 200 Aurora, Colorado 80012 (303) 671-4200</div>	<div>T3 Systems</div> <div>Thad Smith Robert Mashlan</div> <div>We develop software and firmware for realtime measurement and control applications, targeting embedded microprocessors and PCs.</div> <div>* Data Collection & Communication * Motion Control, Custom Interfaces * User Presentation in DOS & MS Windows</div> <div>Free estimates. (303) 449-3322</div>	<div>Serving Colorado and The World — Since 1885 —</div> <div><ul style="list-style-type: none">• Power• Mining & Metals• Petroleum & Petrochemicals• Electronics• Aerospace & Defense• Biotechnology• Pharmaceuticals• Hazardous Waste Management</div> <div>United Engineers & Constructors A Raytheon Company Western Operations</div> <div>P.O. Box 5888 Denver, CO 80217 (303) 843-2000</div>
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IEEE Vehicular Technology Conference

Unemployed? Looking for a new direction in your career?

Take advantage of the IEEE Vehicular Technology Conference, May 11-13, 1992 at the Hyatt Regency, Denver. A reduced registration rate is available for unemployed engineers.

At the conference explore the opportunities of personal communications, mobile and cellular communications and such transportation projects as IVHS.

Sessions to be presented include the following:

What is the future of Personal Communications? Panel Session

A panel of experts will try to answer this question on Monday night, May 11. The panelists are Andrew Viterbi, Qualcomm; Don Schilling, SCS Mobilecom; Dave Goodman, Rutgers; Jan Uddenfeldt, Ericsson; Dale Stone, AT&T; and Bill Lee, Pactel.

For additional information, contact Jim Schroeder, University of Denver, (303) 871-3519 or FAX (303)871-4450.

Cryptography for Mobile Communications
Dr. John E. Hershey, General Electric Corporation
The subject of cryptography for mobile communications will be explored. The subjects to be covered include (1) a review of cryptographic terminology; (2) cryptographic concepts; (3) the special circumstances that a mobile environment places on a cryptographic solution; and (4) regulatory issues.

Status of the IVHS Program Free tutorial

The history and current status of the DoT's IVHS program will be fully reviewed. Special attention will be paid to applications of digital mobile radio systems to IVHS.

For more information please contact John Tray, 452-

Schedule of Conferences and Meetings

April 14-16, 1992	Denver	Telecommunications Assoc. Expo.	Diane Lindsay	(303) 397-2254
April 24, 1992	A.F. Acad.	CO-WY Jr. Academy of Science	John Tary	(303) 452-6111
April 22-24, 1992	Denver	EMC-ESD International	Kristin Hohn	(303) 220-0600
May 11-13, 1992	Denver	Vehicular Technology Conf. (VTC '92)	Jim Schroeder	(303) 871-3519
May 11-14, 1992	Denver	Power System Relaying (PES)	John Appleyard	(608) 364-5622
June 25-26, 1992	Denver	Software Reliability	Rick Karcich	(303) 673-6223
Aug. 31 - Sept. 2, 1992	Estes Park	Hardware Software Codesign	Computer Society	(202) 371-1013
October 21-24, 1992	Denver	Telelearning Conference '92	PBS/ALS	(800) 228-4630
Sept./Oct. 1994	Denver	IAS Annual Meeting	Paul Meisel	(303) 761-6960
September 10-14, 1995	Denver	Petroleum & Chemical (PCIC)	John Nelson	(303) 431-7895
July 27-August 2 1996	Denver	PES Summer Meeting	Fred Jones	(303) 431-7895
1997	Denver	PES Joint Power Generation	Gary Petersen	(303) 329-1506
May 1997	Denver	MTT	Hussain Haddad	(303) 460-2114
			John Dunn	(303) 449-1055
			Claude Weil	(303) 497-5305

Proposed Conferences and Meetings

International Conference on Harmonics in Power Systems (ICHPS) 1996
ESMO 1996
Sections Congress 1996
Transmission & Distribution 1997
ITC 2000
ICC 1995-2000
EMC 1995-2000

Professional Activities

by Darrell Sabatka

The BPI Tech Fair on February 3rd and 4th was attended by several hundred engineers. IEEE had a booth and surveyed the concerns of unemployed engineers. The eight Companies represented were not hiring in Denver and were looking for engineers with at least two years experience. Drake, Beam, Morin, a large local placement company presented a one hour seminar each day entitled "I'm Out of a Job, What Do I Do Now?". Several key points of the seminar were: 1) It may take three to nine months to find another job; 2) The success rate is 65%; 3) Spend 70% of your time in classical networking (IEEE Society Chapter meetings are a good place to start); 4) Emphasize what you can do for the hiring company during the interview.

Metropolitan State College Student Branch hosted an S-PAC on February 8th. Approximately 40 students attended the 11:00 a.m. to 5:00 p.m. conference. The speakers were excellent and the topics very appropriate. The talk by Jim Watson "Polishing Your Professional Image" brought home that the role of engineering is greatly misunderstood by those "outside" the profession. Improving first impressions and applying effective interpersonal skills will enhance and polish the engineer's image. I have several copies of Mr. Watson's presentation. Call if you would like one.

National Engineer's Week, February 16-22 has come and gone. I hope you took some time to pat yourself on the back. In 1933, IEEE will be the lead professional society. I hope to develop a one hour program for 7th and 8th graders in schools in the metro area. I'm looking for representatives to work with a science and math school board member from each county. Call if you want more information or can get a contact person.

Are you financially prepared for retirement? I have a SHAREWARE copy of a software program "The Retirement Financial Projector" that runs on a Lotus spread sheet. I need a middle-aged computer buff to test this product and then provide support to IEEE members if the product has some value. Registration is \$25.00 if you want to register after you have tried this product.

Plans for the one day Employment Assistance Workshop continue. The workshop will probably be a joint effort with the Colorado Engineering Council.

IEEE has a newly revised "Employment Guide for Engineers and Scientists". The two volume document is

available free to unemployed members who write the IEEE-USA office in Washington, D.C.

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!

COLORADO SCHOOL OF MINES Golden, Colorado

FACULTY POSITION IN ELECTRICAL ENGINEERING DIGITAL SYSTEMS

The Colorado School of Mines Department of Engineering is accepting applications for a tenure track position in its Electrical Engineering Division. Candidates with an earned doctorate in electrical engineering and experience in digital systems applied to control and instrumentation will be given preference.

Applicants should have a commitment to excellence in teaching at the undergraduate as well as graduate level. Preference will be given to candidates with demonstrated scholarly accomplishments and history of funded research. The Colorado School of Mines has strong ties to the materials and minerals industries. Interdisciplinary work is encouraged.

APPLICATION DEADLINE: April 30, 1992, or until such time as a successful candidate has been selected. Resumes, supporting materials, and the names and addresses of three professional references should be directed to:

COLORADO SCHOOL OF MINES
Electrical Engineering Search Committee
Department of Engineering
Golden, CO 80401



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Joint Vehicular Technology/Communications - **Ken Shugg**, Martin Marietta Information and Communications Systems, 397-7417

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Reliability - **Rick Karcich**, StorageTek, 673-6223

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The Month at a Glance

April 9, 1992

Black Hills Subsection Meeting

April 10, 1992

FRS/WQC Meeting

April 15, 1992

Denver Section/ All Chapters
Meeting, including:
PES/IAS

April 22, 1992

Magnetics Society Meeting

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AP/MTT/GRS Meeting

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Official Publication of the
IEEE Denver Section