



THE INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS, INC.

RockIEEE Overlook

Denver Section

September, 1989

Society Chapter Meetings and Information

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.

Joint AP/MTT/GRS

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

Tuesday, September 19, 1989

University of Colorado Engineering Center
Room CR-030
3:30 - 4:45 p.m.

Speaker

Dr. Bernard Yurke
AT&T Bell Laboratories
Murray Hill, New Jersey

"Quantum Noise in Microwave and Millimeter-Wave Electronics"

At elevated temperatures, a microwave termination radiates thermal noise with no power proportional to the termination's temperature. At sufficiently low temperatures, the noise power radiated by the termination no longer decreases with temperature but instead levels off to a constant value. This temperature-independent noise is called zero-point noise or vacuum fluctuation noise and is a manifestation of the quantum mechanical nature of the electromagnetic field. Recently it has become possible to construct circuits, employing Josephson junctions, whose noise performance is sufficiently good that the dominant noise is of this quantum mechanical origin.

Recently it has been experimentally demonstrated at optical frequencies, that quantum states of the electromagnetic field, called "squeezed states", can be generated, which in some sense exhibit less noise than the vacuum fluctuation noise. That is, light has been generated which is less noisy in one of its aspects than complete darkness. Similar experiments are now under way at microwave frequencies.

How one generates squeezed states at microwave frequencies and how they may be employed to enhance the performance of sensitive instrumentation will be described.

Reservations are not required
For further information call John Dunn at 492-5487.

Joint PES/IAS

Power Engineering/Industry Applications

Thursday, September 21, 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

Dr. Pankaj K. Sen, P.E.
Associate Professor
Department of Electrical Engineering and Computer Science
University of Colorado at Denver

"Power Engineering Education at CU Denver"

The University of Colorado at Denver is one of four campuses in the CU system. Today at CU Denver, the College of Engineering and Applied Science offers degrees in Civil, Mechanical, and Electrical Engineering as well as Computer Science and Applied Mathematics. The Department of EE & CS offers graduate and undergraduate programs in a variety of specialties including "Power Engineering". This seminar will discuss the scope of power engineering education at CU Denver.

Please contact Barbara at Peterson Company, 388-6322, by Monday, September 18.

EMC

Electromagnetic Compatibility

Wednesday, October 11, 1989

Martin Marietta, Waterton Facility
Presentation & Demo by the Measurements Laboratory Staff
7:00 p.m.

"The Measurement of Conducted Emissions"

Please contact Andy Anderson, 971-6422, or Bill Bryant, 977-6578, for further information.

CS/ITS
Computer/Information Theory

Thursday, September 21, 1989

AT&T Bell Laboratories
11900 N. Pecos St., Denver
7:00 p.m.
Refreshments will be served

Speaker
Bob Bose
AT&T Staff Manager

"ISDN Applications"

Mr. Bose will discuss AT&T's view of ISDN (Integrated Services Digital Network) and will present interactive demonstrations of various ISDN applications. ISDN is a digital implementation of the world-wide telecommunications system, providing integrated voice and high-speed data capabilities to business and home users. Mr. Bose will gear the discussion to the needs of the audience.

How To Get There

I-25 to 120th. W on 120th to Pecos (second main intersection). S on Pecos, E on first drive, Custy Lane) to the front of the building. Enter through revolving doors, meet in the lobby before 7:00 p.m.

RSVP Requested, Sandy Bish, (303) 538-8157.

The IEEE Computer Society and Information Theory Society (CS/IT) holds monthly meetings throughout the Denver area. These typically are held the third Thursday of each month, in the evening. We also sponsor professional seminars and videoconferences periodically. You do not need to be a member to attend. Call 538-8157 for more information on IEEE or IEEE CS/IT.

Society Chapter Happenings
by Paul Meisel

Members of the Denver Section are fortunate this year to have enthusiastic Chapter Chairpersons. At an organization meeting held in July, the new Chapter people told the topics of programs which they have planned. In many cases, the speakers have been contacted and new and interesting programs are ready for the fall and spring activities to begin.

Many chapters change their officers in the summer to permit a continuous flow of activities through the fall, winter, and spring meeting season. The Denver Section officers, however, operate on the same schedule as the officers of IEEE, and change at the beginning of the year.

The new officers of the chapters in Denver would like to hear from you. If you have any ideas for additional meet-

ings, tutorials, or seminars, they would like to receive those. The new people are:

Rory Laiho
Joint Computer/Information Theory
924-7534

John Dunn
APP/MTT/GRS
492-5487

John Barnick
PES/IAS
987-4264

Juan Hernandez
Reliability
(719) 590-8880 x410

Continuing Chapter Chairmen are just as active as these new people. If you have additional inputs which you would like to make to them, their names are listed on the last page of the RockIEEE Overlook. Since these people have worked hard on this already, and their programs will be interesting and exciting, we hope this fall to have you attend the first program given, and continue to support the chapters throughout the season.

The Student Fund
by John B. Richards

The Student Fund was established in the 1970's by the Executive Committee of the IEEE Denver Section. The original source of funds for the Student Fund was from excess money earned by conferences sponsored by the Section. The Section has from time to time added to the monies designated as the Fund. In order to provide for the continuous existence of the Fund, it was formally written into the Denver Section bylaws in September, 1981.



The Bylaws state "The Section shall establish a Fund for the purpose of promoting student interest and participation in electrical, electronic or computer engineering and science at the Junior High, Senior High or College level."

Currently, the Student Fund Committee spends the interest from the monies allocated to the Student Fund and the principal remains intact. That currently amounts to about \$1000 a year. The most notable functions supported by the Student Fund Committee or the Area "A" Student Paper Contest, which has traditionally been funded at about \$600 per year; and the Science Fair, which has been funded at about \$150 per year. The remainder of the money has been used for such functions a membership drives at Universities, travel expenses to Paper Contests, and seed money for several money making projects proposed by students. The Student Fund money is administered by a three member Committee under the direction of the Denver Section Executive Committee.

For more information about the fund, please call Charlie Wright (233-5553) or John Richards (329-1177).

Congratulations Anita !!

On June 27th, at 12:02 a.m. Anita Wanberg, Overlook Coordinator, gave birth to a baby boy, John Stanton Wanberg, weighing in at 8 1/2 lbs. and measuring 20 1/2 inches. Mother and baby are doing fine. Father is questionable.

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Schedule of Conferences and Meetings

June 17 - 21, 1990	Colorado Spgs	Utilities Communications	George Stoll (303) 571-2677
March - April, 1991	Fort Collins	Region 5 Conference	Gordon Lee (303) 491-5767
April 28 - May 2, 1991	Boulder	PES Substation Com. Mtg.	George Flaig (303) 452-6111
June 23 - 27, 1991	Denver	International Communications Conference	Russ Johnson (303) 796-9100
Spring, 1992	Denver	Vehicular Technology Conf. (VTC '92)	Don Cottrell (303) 871-3752

Proposed Conferences and Meetings

IAS 1994
ACM/IEEE Design Automation 1994
PES Joint Power Generation 1994
PES Summer Meeting 1994-95
MTT 1997
ITC 1997-2000

Overlook Advertising

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	Rate	
	One Time	Multiple
Business Card	\$ 25.00/mo.	\$ 20.00/mo.
1/8 page	\$ 60.00/mo.	\$ 50.00/mo.
1/4 page	\$ 150.00/mo.	\$ 130.00/mo.
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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. Box 4056, Englewood CO 80155-4056. Call Anita at (303) 220-8042 for more information.

The Committee also represents IEEE at Colorado Engineering Council meetings and coordinates IEEE participation in CEC activities including review of proposed State legislation affecting engineers, the Engineer's Legislative Breakfast, furnishing speakers for high school Career Days programs, recognizing outstanding engineering students at Colorado engineering schools, and recognition of outstanding practicing engineers.

Chairman's Message by Keith Henderson

The Chapters, the mainstay of IEEE, operate on an academic year basis. The Chairmen for the 1989-90 year met July 19th for a Steak Fry, and outlined their meeting plans for the coming year. Fellow Section members, we are going to have the opportunity of attending and participating in excellent meetings this year!!

The Section, which primarily supports the Chapters, operates on a calendar year basis. From a Section perspective, a most pleasurable experience is meeting, and talking with the new Chairmen. Their hopes of providing quality meetings re-energizes the whole Section. While initially somewhat subdued, the energy and momentum grows as more participate. Gals and Guys, this momentum is the key. Warning! If you attend a meeting and say hello, you might feel the energy and catch the spirit.

Our thanks to the host of the Steak Fry, Bill Whipkey.

John Martin is putting the finishing touch on the September 14th IEEE Denver Section-Industry Executive Luncheon. Here again is another setting for exchanging ideas and promoting communications.

I still get a laugh at Paul "Open Loop" Meisel's amazement when in an Overlook article he requested interested people call him, and he got a number of calls. Can you believe he is now trying to justify a Cellular Phone?

If you want to get response, use the Overlook!

YOU ARE CORDIALLY INVITED TO A RETIREMENT DINNER

to honor

Paul Bartlett

Dean of Engineering
University of Colorado at Denver

Date: Saturday, September 30, 1989

Place: Stouffer Concourse Hotel
3801 Quebec St.
Denver CO

Time: 6:00 p.m.

Cost: \$25.00 per person

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by Pankaj K. Sen

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Professional/Industrial Liaison

Committee

by John E. Martin

Most IEEE Sections have a Professional Activities Committee for Engineers (PACE) as a part of their Executive Committees. Professional activities have become very important to the membership in areas such as career development, member services, continuing education, government activities, and pre-college mathematics and science education. Because so many activities are included under (PACE), the Denver Section has divided these activities among several committees.

One of these committees in the Professional/Industrial Liaison Committee whose purpose is to foster closer relations between the officers of the Denver Section and the leaders of local industries whose employees are members of IEEE. To accomplish it's goals this year, the Committee is planning to hold an IEEE Denver Section Officer-Industry Executive Luncheon to provide a forum at which Section Officers can briefly explain Denver Section activities and our invited guests can tell our Section Officers how IEEE can better serve their industries and their employee members.

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Executive Committee (Includes Executive Board)

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Conferences - **John Tary**, Tri-State Generation and Transmission Association, 452-6111
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Awards - **Charles Wright**, Public Service Company of Colorado (retired), 233-5553
Educational Activities - **Pankaj K. Sen**, EE & CS Dept., Univ. of CO Denver, 556-2872, 556-2685

Professional Activities - **William D. Whipkey**, Amoco, 830-4713
Nominations - **Michael J. Foley**, Forensic Engineering, Inc., 789-0078
Membership - **Don E. Lindahl**, Siemens Energy & Automation, 770-7907
Student Fund - **John Richards**, Public Service of CO, 329-1177
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 Colorado Health Sciences Center, 270-8552
Joint Antenna and Propagation/Microwave Theory and Techniques/Geoscience and Remote Sensing - **John Dunn**, University of Colorado, 492-5487
Joint Computer/Information Theory - **Rory Laiho**, IBM, 924-7534
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 - **John Barnick**, Westinghouse, 987-4264
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

September 14, 1989
IEEE Denver Section-Industry Executive Luncheon

September 19, 1989
AP/MTT/GRS Meeting

September 21, 1989
Joint PES/IAS Meeting
CS/ITS Meeting

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