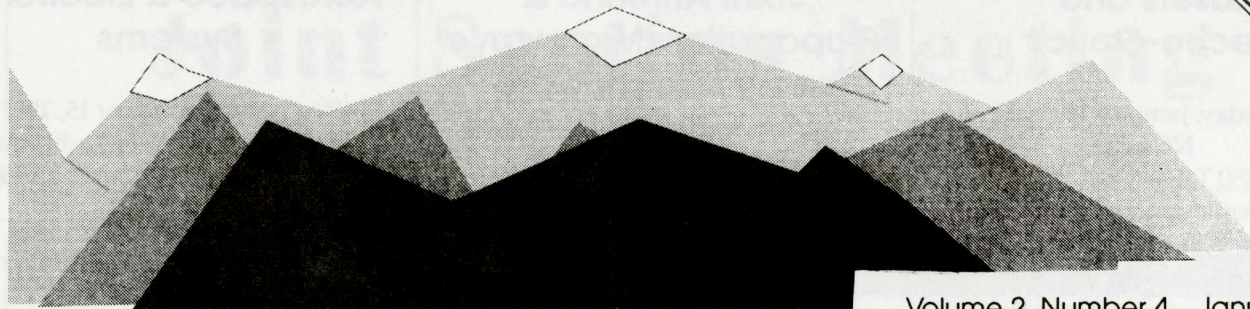


RockIEEE Overlook



Volume 2, Number 4 January 1997

Sitting in the Chair

by Fred Jones

Happy New Year!

On behalf of the Denver Section Executive Board, the Executive Committee, all of the Society Chapter Officers and the members of the Denver Section, I would like to thank Dave Richmond for a job well done. Dave's leadership improved the financial stability of the Section and charted a new course for us into the age of electronic communications. Dave will remain on the Executive Board as the Junior Past Chair and his counsel will be valued.

Five members of the Executive Board and I were fortunate to attend the Sections Congress '96 which was held in Denver this past November. For me it was energizing to meet and exchange ideas with more than 500 electrical engineers from nearly every country in the world. The IEEE is truly becoming a global organization, with membership outside of the United States growing at almost 4% per year.

It was also encouraging to learn that the concerns of the Denver Section are not unique or falling on deaf ears in Piscataway. Most of the U.S. Sections are faced with a static or slightly declining membership, financial instability and a chronic lack of volunteers to serve as Chapter and Section officers.

The Denver Section is healthy compared to most sections across the country. Our membership has been stable for many years at approximately 4800 members, including students and affiliates. We presently have 11 active Chapters representing 16 Technical Societies. Our budget is approximately \$35,000 again this year, much as it has been for the past few years. We owe some of our membership and financial stability to the economic stability of Colorado. The engineering communities in some states have been devastated by downsizing.

A large part of our income in the past has come from conferences held locally. We have enjoyed more than our fair share of conferences in Denver over the past few years. Once again, we owe some of our success in that area to living in an attractive and vital city that people like to visit. We are expecting a decline in conference income over the next few years however which will definitely hurt us financially. We believe we can manage this loss of income successfully by reducing our major expense, the publication and distribution of the RockIEEE Overlook newsletter. We are in the process of making the Overlook available on the Denver Section Web Page to those who prefer an electronic copy rather than a hard copy.

I think the health and stability of the Denver Section is primarily due to the hard work and strong leadership of the many volunteers who

A Note From Dave Richmond

January and the New Year brings changes in personnel in the IEEE Denver Section. It was my honor to serve as the Denver Section Chair in 1996. Fred Jones has assumed the office as of January 1997. Fred has been an active member in the Section for many years and has held various offices on the Executive Committee and Board. Please join me and welcome Fred to his new office. I would like to thank all the volunteers who have helped the Section have a very prosperous 1996.

have preceded me. Conferences don't just come to Denver because we are a nice city, and speakers don't just show up at technical society meetings hoping that someone will ask them to talk. It takes a few people willing to put in a few hours of their time to "make it happen." Only you, the Denver Section Members, can keep us healthy and stable in the future by stepping up and volunteering a few hours of your time each month to help "make it happen."

If you think you can squeeze a few extra hours out of your busy schedule each month, contact me, or contact any of the Section Officers listed on the back of the Overlook. We have some important positions at both the Chapter and Section levels that need your leadership.

RockIEEE Overlook
Official Publication of the
IEEE Denver Section
1834 Fillmore Ct., Louisville, CO 80027
Published Jan. - May, Sept. - Nov.

Lasers and Electro-Optics

Thursday, January 16, 1997
NCAR
1850 Table Mesa Dr.,
Boulder, Colorado

An Evening with Milton Chang and New Focus

Schedule
6:00 - 6:30
New Focus Product Demonstration

6:30 - 7:00
Milton Chang,
"How to Win DOD Contract"

7:00 - 7:30 p.m.
Social with Snacks

7:00 - 8:30 p.m.
"How to Commercialize
Your Invention"

Call Andy Aust at 497-3942 for
additional information.

Upcoming LEOS Meetings
to be held at NIST in Boulder.

February 20, 1997

Dr. Kam Lau, Berkley University
"Microphotonic Adaptive Opto-electronic Packages"

March 20, 1997

Dr. Tingye Lee, New Focus
"Evolution & Revolution in
Lightwave Communications"

April 17, 1997

Dr. Kevin Lear, IEEE/LEOS
Distinguished Lecturer
"High-Efficiency Vertical Cavity
Surface Emitting Lasers"

May 15, 1997

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

Meetings

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

Thursday, January 16, 1997
4:00 - 5:00 p.m.
NIST
325 Broadway,
Boulder, Colorado

Speaker
Dr. Robert Johnk
National Institute of Standards & Technology
Electromagnetic Fields Division
Fields and Interference Metrology

"NIST Time Domain Electromagnetic Metrology"

Call Richard Geyer, 497-5852 for
additional information.

Joint Power Engineering /Industry Applications

Upcoming PES Events

January 29, 1997:
Joint Sections Meeting
"Professional Development & Education"

February 20, 1997:
Field Trip - Trigen Cogeneration Facility

March 20, 1997:
"Overvoltage Protection"

April 17, 1997:
Seminar - "Industrial Grounding"

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

September 18, 1997:
Jim Gorman - "Design E Motors"

Aerospace & Electronic Systems

Wednesday, January 15, 1997
6:30 - 7:00 p.m. Social (Auditorium)
7:00 - 9:00 p.m. - Program (Conf Rm.)

Ball Aerospace & Technologies Corp.
Aerospace Systems Division
15600 Commerce Street
Boulder, CO 80306-1062

Speaker
Dr. Dennis Ebbets
Systems Engineer,
Ball Aerospace & Technologies Corp.

"Making Hubble Work in Orbit"

The IEEE Aerospace and Electronic Systems Chapter is pleased to host a presentation by Dr. Dennis Ebbets about the challenges that faced the Hubble Space Telescope (HST) engineering team when the optics did not function properly. Dr. Ebbets' discussion will cover:

- * An overview of the Hubble mission
- * The instruments: Scientific goals; what they measure
- * What was wrong with the Large Telescope Optics?
- * How did Ball Aerospace design the optics fix?
 - technology employed
 - special analysis & simulation used
 - implementation challenges
- * New work in progress; next mission

Dr. Ebbets is a systems engineer on the Ball Aerospace Hubble Telescope Team. His contributions cover the range of instrumentation, optics, and astronomical research. Dr. Ebbets received his bachelor's degree in physics from Wesleyan College in West Virginia, and the PhD in Astronomy from the University of Colorado at Boulder.

Call John Tsucalas at 798-5769 by Monday, January 13, 1997 for additional details, and to confirm time and location of this meeting.

January 1997

Joint Section Meeting January 29, 1997

Denver Section Meeting

Jan 29 Joint Meeting with
PES/IAS Chapter



All Society Chapters Invited

Event: Professional Development and Educational Presentation Section Awards

Where: Ramada Mile High at 1975 Bryant
(Just NE of Mile High Stadium)

Time: 6:00 - 6:45pm Social Time
6:45 - 8:30pm Dinner and Meeting

Reservations: Call Barbara Linton at The Peterson Company - 303-388-6322 NLT January 27th.

Presentation: Engineers --- Fundamentals of Marketing Yourself and Your Company/Organization

Speaker: Mr. Bob Beale, President, Beale International (Management and Marketing Consultants)

Mr. Beale has exceptional engineering, management, marketing, and accounting backgrounds. His consulting, speaking, and marketing experiences have taken him worldwide. These endeavors include Russia and other former USSR republics, European countries, as well as every state in the USA. One of his current clients is the Denver Broncos. *Mr. Beale is an excellent speaker and an authority in this field.* It will be an evening well spent in expanding your professional development and knowledge.

Please Post This Announcement on Your Bulletin Board

JOINT MEETING
DENVER SECTION
PES/IAS JOINT CHAPTER



Denver Section Hosts Sections Congress '96

by John Martin, Chairman
Sections Congress '96 Local Organizing Committee

November 1-4, 1996, the Denver Section hosted Sections Congress '96 at the Marriott City Center Hotel. Co-hosts were the Pikes Peak Section and Region 5. Members of the Denver and Pikes Peak Sections comprised the Local Organizing Committee for this event.

SC'96 was the fifth in this series of highly-regarded meetings which are held every three years. Previous Congresses were held in Boston, MA; Anaheim, CA; Toronto, Canada; and San Juan, Puerto Rico.

There were 643 attendees with 508 delegates representing 228 Sections from all over the world. Delegates were present from six of the seven continents and from such remote places as Moscow, Russia; Hong Kong; Tokyo, Japan; New Delhi, India; Bulgaria; and Queensland, Australia.

During the Opening Ceremony, delegates were welcomed by IEEE and local dignitaries. Also, they were treated to a keynote speech by former astronaut, Dr. Ronald Sega, who is now the Dean of Engineering at the University of Colorado - Colorado Springs. The next two days were devoted to tutorials and workshops at which delegates learned how to utilize the resources of the IEEE to maximize their effectiveness such as IEEE volunteer leaders. Also, caucuses were held at which delegates identified the issues which they felt most needed to be implemented by IEEE leadership. The four issues voted as having highest priority all involved electronic communications. During the closing ceremony, delegates were treated to an animated, high-tech, presentation by Jim Watson and IEEE President-Elect Charles Alexander on the opportunities of Section leadership in the near future. IEEE President Wallace Read in his closing address said that "we are truly molding a new engineering culture" and listed the key components of the 21st century engineer.


As Chairman of the Local Organizing Committee, I have received many positive comments about our Congress and no negative comments. I hope that all the members of the Denver Section who "made it happen" are enjoying a true sense of accomplishment for the success of this event.

Employers Wanted

to offer Apprenticeships for
Electronics Technicians

Train your technicians in partnership with ACC.

(303) 797-5799

 Arapahoe Community College

AAEOE

From the Editor by Pete Koloditch

Recently, I accepted the task of editing the RockIEEE Overlook newsletter. As your new editor, I will have the pleasure of assisting in the transition to an electronic newsletter and E-Mail notification system. This process will take us from the slow and costly present mailing system to a full function Internet Home Page, supplemented by E-Mail.

As part of the information requested for our yearly IEEE membership renewal, each of us was asked for an E-Mail address. We hope the IEEE database compiled from this information will soon be made available for all the local sections to use. From this information, we initially intend to send announcements and special event notification to all those with an E-Mail address. Eventually, we plan to use the E-Mail system to supplement our Internet home page to provide 100 percent coverage to the section and its sub-sections. This transition will be slow, but will accelerate as more and more members have access to either E-Mail, or the Internet. Of course, we already have an Internet home page with a scanned copy of the RockIEEE Overlook, courtesy of the DU engineering students. This can be found by searching IEEE USA and working down through the IEEE Home Page, Local Activities (Home Pages), Region 5, Sections in Region 5, Denver Section. Or you can go straight to the Denver Section site via <http://www.engr.du.edu/ieee/den3e.html>.

Sometime next year, we plan to construct a complete electronic version of the newsletter, to replace the scanned version.

STEERING COMMITTEE

Chair

Claude M. Weil, NIST
(Nat'l Institute of Standards & Tech.)
303-497-5305 Fax: 303-497-6665
E-mail: weil@boulder.nist.gov

Vice Chair/Special Sessions

Motohisa Kanda, NIST
303-497-5320 Fax: 303-497-6665
E-mail: m.kanda@ieee.org

Vice Chair/Plenary Session/ARFTG

Roger B. Marks, NIST
303-497-3037 Fax: 303-497-7828
E-mail: r.b.marks@ieee.org

Local Arrangements

Robert & Sharon Seeley, Monitor Lab
303-986-6790 Fax: 303-792-7854
E-mail: bseeley@monitorlabs.com

Finance

John Dunn, Univ. of Colo., Boulder
303-492-5926 Fax: 303-492-5323
E-mail: john.dunn@colorado.edu

Publicity

Ronald R. DeLyser, Univ. of Denver
303-871-2034 Fax: 303-871-4450
E-mail: rdelyser@du.edu

Technical Program

K.C. Gupta, Univ. of Colo., Boulder
303-492-7498 Fax: 303-492-5323
E-mail: gupta@colorado.edu

Zoya Popović, Univ. of Colo., Boulder
303-492-0374 Fax: 303-492-5323
E-mail: zoya@colorado.edu

Interactive Forum

John Norgard, Univ. of Colorado
719-262-3143 Fax: 719-333-3756
E-mail: j.norgard@ieee.org

Workshops

Donald DeGroot, NIST
303-497-7212 Fax: 303-497-3970
E-mail: degroot@boulder.nist.gov

Student Papers

Stoyan Ganchev, Colo. State Univ.
970-262-3143 Fax: 970-491-2249
E-mail: ganchev@lance.colostate.edu

Digest

Gerhard Koepf, SCT
303-384-0505 Fax: 303-271-0726
E-mail: koepf@reachsct.com

CD-ROM

Chris Jelks, Lockheed Martin
303-977-3138 Fax: 303-971-9207
E-mail: chris.jelks@den.mmc.com

Transactions Guest Editor

Richard Booton
303-440-6916
E-mail: rbooton@aol.com

RFIC Symposium Liaison

Dylan F. Williams, NIST
303-497-3138 Fax: 303-497-3122
E-mail: dylan@boulder.nist.gov

Secretary

Michael D. Janezic, NIST
303-497-3656 Fax: 303-497-3122
E-mail: janezic@boulder.nist.gov

Guest Program & Transportation

Robbie Marks, 303-355-9539

Registration

John Tary, 303-499-2164

Convention Center Manager

Ray Kagiya, Hewlett-Packard Co.
303-938-3038 Fax: 303-938-3025
E-mail: ray_kagiya@hp.com

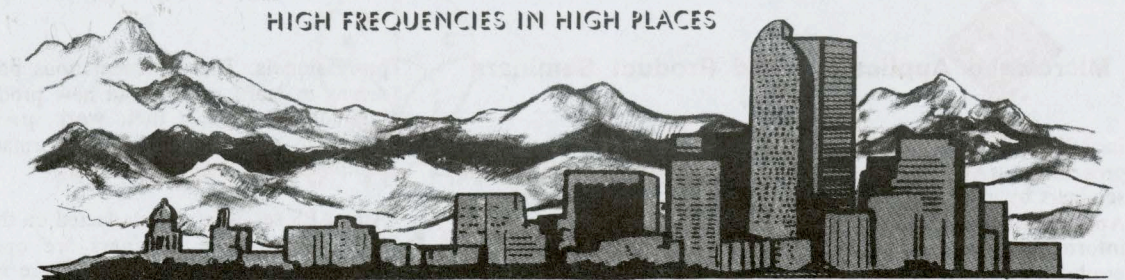
Exhibit


Howard Ellowitz & Harlan Howe, Jr.
Horizon House Publications
617-769-9750 Fax: 617-762-9230
E-mail: mwj@mwjournal.com

Conference Services

Larry R. Whicker, LRW Associates
704-846-0548
E-mail: lrwassoc@aol.com

HIGH FREQUENCIES IN HIGH PLACES



1997 IEEE MTT-S INTERNATIONAL MICROWAVE SYMPOSIUM
DENVER, COLORADO  JUNE 8-13, 1997

Microwave Week comes to Denver!

1997 marks the historic return of the IEEE MTT-S International Microwave Symposium (IMS) to Colorado. As a major telecommunications hub of the wireless, cable TV, and spaceborne TV industries, Denver is a great reflection of the new, commercial face of the RF/microwave industry. A comprehensive program including hundreds of technical presentations and dozens of workshops, as well as the largest exhibition in the industry, will review the latest advances in RF and microwave technology, with particular emphasis on wireless communications. Ten thousand registrants attended last year's symposium! It all comes together the week of 8-13 June at the Colorado Convention Center. So, come join us at the world's foremost microwave technical conference and exhibition!

Technical Workshops

The 1997 IMS provides an exciting and timely workshop program to augment the continuing education of engineering professionals. These workshops offer the opportunity to interact with specialists during extended full-day and half-day sessions, as well as over lunch and during refreshment breaks. This year, you can choose from among 24 workshops that range in format from tutorials on emerging technology to working forums where experienced professionals examine critical issues within their fields. In addition to hot technical areas such as point-to-point television distribution and personal communication technology, this year we introduce workshops to cover business issues and teach timely workplace skills. You will find new workshops on FCC procedures, emerging business issues in the rapidly changing microwave industry, and training for World Wide Web site development. See the back side for more details. In addition, six lunchtime Panel Sessions will feature interactive discussions of topical issues.

Plenary Session

The 1997 IMS Plenary Session highlights two telecommunications infrastructures that will revolutionize the microwave/RF industry. Mr. Shant Hovnanian, CEO of CellularVision, U.S.A., will address the future of the local multipoint distribution system (LMDS), a cellular video network poised for rapid growth. CellularVision pioneered LMDS and operates a growing 28 GHz

consumer network in New York City. Pioneering a spread spectrum personal communications system (PCS) in the same city is Omnipoint Corp., whose Chief Scientist, Mr. Robert Dixon, will also address the Plenary Session. Mr. Dixon, author of the key text on spread spectrum technology and a well-known lecturer, will discuss the impediments to real technological innovation in PCS in a talk posing the question, "Will the Real PCS Please Stand Up?" The IMS Plenary Session, on Tuesday morning, June 11, is a rare look into your microwave future.

ARFTG Conference Goes Video

The Automatic RF Techniques Group (ARFTG) presents its 49th Conference at Denver's landmark Brown Palace Hotel on June 13. This year's theme, "Characterization of Broadband Telecommunications Networks," highlights the microwave/RF aspects of new television distribution networks. The meeting covers advanced digital cable television as well as microwave and cellular TV (LMDS and MMDS), with speakers representing the leading edge of those industries. Mr. Syd Fluck of HP CaLan serves as the Keynote Speaker. An accompanying exhibition features the latest in instrumentation.

RFIC Symposium

The RFIC Symposium will focus on highly integrated RF ICs and subsystems. Papers will describe original work on analog, mixed-signal, and mixed-mode ICs and subsystems. Commercial and military applications will include wireless communications, broadband communications, analog and digital mobile communications, intelligent transportation systems, broadband access modems, and radar systems.

Hundreds of Exhibits

As in the past, Microwave Week includes the premier exhibition in the industry. With hundreds of participating companies, this is a golden opportunity to display and view the latest products and talk to your customers and suppliers. A Microwave Historical Exhibit and University Exhibits will also enliven the hall.

Additional Information

For more details and registration information, see our Web Site at <http://www.boulder.nist.gov/ims>, or contact Michael Janezic at 303-497-3656.



Protocol: David F. Wait; University Relations: Dick Ehret; Publications Support: Charles M. Jackson, Don Huebner, Joseph Donovan; Publicity Support: George Rinard, Jeffrey Jargon; Signs: Christie Whitehead; MTT-S AdCom Liaison: Karl Varian; Industry Relations: Dick Loewecke, Robert O'Rourke; Historical Exhibit: Dave Russell

Microwave Application and Product Seminars (μ APS)

In 1997, we continue the tradition begun in 1996 by again presenting μ APS, a forum for technical product application seminars by exhibiting companies. The purpose of the Microwave Application & Product Seminars is to provide technical information and background related to commercially available products of interest to the microwave engineering community, including design, manufacturing, marketing, and management

professionals. These presentations provide attendees with another means to learn more about new products and techniques that can immediately benefit their work. μ APS gives practitioners direct access to practical technical information by those who know the equipment and techniques best.

All μ APS sessions are conducted on the trade show floor adjacent to the exhibits. The seminars are open to all Microwave Week registrants at no extra charge. There is no pre-registration required. Individual presentations will be 30 minutes in length with time for questions and answers.

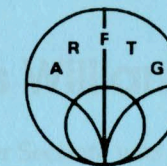
1997 IEEE MTT-S International Microwave Symposium: Microwave Week at a Glance				
	MORNING	LUNCHTIME	AFTERNOON	EVENING
Sun 6/8	Full-Day Workshops			RFIC Reception
Mon 6/9	Full-Day Workshops & RFIC Symposium			Microwave Journal/ MTT-S Reception
	Half-Day Workshops	RFIC Panel	Half-Day Workshops	
Tue 6/10	IMS Technical Sessions, RFIC Symposium, & Exhibition			IMS Rump Session
	IMS Plenary Session	IMS Panel	μ APS	
Wed 6/11	IMS Technical Sessions, Exhibition, & μ APS			Industry-Hosted Reception Awards Banquet
		IMS Panel	IMS Interactive Forum	
Thu 6/12	IMS Technical Sessions & Exhibition, & μ APS			
		IMS Panel	IMS Interactive Forum	
Fri 6/13	Full-Day Workshops, ARFTG Conference & Exhibition			
	Half-Day Workshops		Half-Day Workshops	

Workshops

	8 AM	12 PM	1 PM	5 PM
Sunday June 8	WSA	The Emergence of Multipoint Distribution Systems (MMDS, LMDS)		
	WSB	Low Voltage, Low Power Consumption RFICs for Wireless Communication Products		
	WSC	Measurements for Silicon and GaAs Telecommunication ICs		
Monday June 9	WMA	State-of-the-Art Filter Design Using EM and Circuit Simulation Techniques		
	WMB	Microwave and Millimeter Wave Optoelectronic Integrated Circuit Modules: Manufacturing and Applications		
	WMC	Nonlinear Measurements and Modeling		
	WMD	Cryogenic Packaging of Electronic Subsystems and Their Applications		
	WME	System Requirements for Ferrite Components	WMI	Ferrite Devices and Measurements
	WMF	Next Generation Mixed Signal Testing	WMJ	EM Waves in Artificial Structures (PBG's)
	WMG	Millimeter Wave Opportunities for Automotive and Radio Applications	WMK	Digital Frequency Synthesizer: Technology and Application
	WMH	Emerging Business Issues in Microwave Technology	WML	Telecommunications and Spectrum Policy for the Microwave Engineer
Friday June 13	WFA	Low-Cost Millimeter Wave Products: Design and Manufacturing Issues		
	WFB	Power Amplifier Design for Digital Wireless Systems		
	WFC	Interconnects and Packaging for RF Wireless Communications Systems		
	WFD	Nonlinear Frequency-Domain Device Modelling and Circuit Simulation	WFG	Optical Amplifiers in Microwave Systems
	WFE	Applications of Artificial Neural Networks to Microwave Design	WFH	Epitaxial Materials Manufacturing for HEMTs and HBTs
	WFF	Quasi-Optical Power Combining	WFI	WWW Page Design

Advanced fees are \$80 for Full-Day and \$50 for Half-Day. Prices include meals, breaks, and a bound set of notes.

For the latest information, visit <http://www.boulder.nist.gov/ims> !



AUTOMATIC RF TECHNIQUES GROUP

CALL FOR PAPERS

49th ARFTG Conference
Denver, Colorado
June 13, 1997

Characterization of Broadband Telecommunications Components and Systems

In conjunction with the International Microwave Symposium, the Automatic RF Techniques Group will hold its 49th Conference at the landmark Brown Palace Hotel in Denver, Colorado on Friday, June 13, 1997. The conference technical theme is "Characterization of Broadband Telecommunications Components and Systems."

Telephone and cable television service providers are converging in their efforts to provide high-bandwidth, two-way, full-service networks to homes and businesses. Much of the proposed infrastructure is wireless or based on coaxial cable. These systems demand RF components and subsystems of exceedingly high performance.

The Conference's Keynote Speaker, Syd Fluck of HP CaLan, will open the meeting with an address entitled "RF Measurements for Broadband Networks." We solicit additional original papers, particularly on the topics of:

- components and subsystems for hybrid fiber/coax telecommunications networks
- mixed digital and analog video on cable systems
- LMDS and MMDS systems and components
- wireless local loop
- PCS over cable television systems

We especially seek papers on test requirements and methods, test equipment, and performance results. Measurements of interest include frequency response, group delay, distortion (including composite triple beat and composite second order), ingress, interference, carrier-to-noise ratio, in-channel response, adjacent channel power, and the long term characterization of digital modulation in terms of error vector magnitude, bit error rate, errored seconds, severely errored seconds and the time distribution of error bursts.

Papers are also invited in other areas of automated microwave and RF measurements, including network analysis, nonlinear characterization, and noise.

Presentations will be 20 minute talks using transparencies or 35 mm slides. Authors are requested to submit three copies each of a one page abstract and a 500 to 1000 word summary, including illustrations, to allow evaluation with regard to the interests of the participants and the quality and novelty of the work. This submittal is due to the Technical Program Chair no later than **March 14, 1997**. Final deadline for full camera ready papers is April 25, 1997. Additional information can be obtained from the Conference Chair.

For information on an outstanding exhibition opportunity, please contact the Exhibits Chair.

<http://www.boulder.nist.gov/ims/arftg>

Conference Chair
Dr. Roger B. Marks
 NIST

325 Broadway, MC 813.06
 Boulder, CO 80303
 1-303-497-3037
 1-303-497-7828 (fax)
 r.b.marks@ieee.org

Technical Program Chair
Dr. Gary D. Alley
 Lucent Technologies/
 Bell Laboratories
 1600 Osgood St., 30-2ATM47
 N. Andover, MA 01845
 1-508-960-6570
 1-508-960-5248 (fax)
 galley@lucent.com

Exhibits Chair
Michael Fennelly
 ATN Microwave Inc.
 85 Rangeway Road
 N. Billerica, MA 01862
 1-508-667 4200 x18
 1-508-667-8548 (fax)
 mfennelly@atn-microwave.com

ARFTG Executive Committee
Kevin Kerwin, President
 Hewlett-Packard Company
Ken Wong, Vice-President
 Hewlett-Packard Company
Bill Pastori, Treasurer
 Maury Microwave Corp.

Patrick Nolan, Secretary
 Lockheed Martin Company
Henry Burger, HB Engineers
Harmon Banning
 W.L. Gore & Associates

John T. Barr IV
 Hewlett-Packard Company
Michael Fennelly
 ATN Microwave, Inc.

Edward Godshalk
 Redpoint Microwave, Inc.

Robert Judish, NIST

Roger Marks, NIST

Gary Simpson
 Maury Microwave Corp.

Raymond W. Tucker
 Rome Laboratory

Charles R. Wright Receives William W. Middleton Award

Charles R. Wright, Past Chairman of the Denver Section, was recognized by the Regional Activities Board during Sections Congress '96 on November 4, 1996 here in Denver. Charles was presented the William W. Middleton Distinguished Service Award for his "exemplary contributions and dedicated service in preserving the history of electrical engineering and presenting this history to the public". This award, which can be awarded no more frequently than every three years, is awarded to honor an individual, who over a long and sustained period of leadership contributed in an exemplary manner to the Regional Activities Board, its activities and achievements. The award was presented by Raymond D. Findlay, IEEE Vice President of Regional Activities.

Student Section Paper Contest

Contest Date:
February 8, 1997 @ the
Colorado School of Mines

Paper Submittal Due Date:
February 1, 1997

**Information Regarding
Submittal:**
Call Trevor Pfaff
@ (303) 279-7607

Celebrating National Engineers Week, February 16-22, 1997

Seventeenth Annual Colorado Engineers Dinner

organized by the Colorado Engineering Council

Guest Speaker
Dr. Evan Vlachos - Planner/Futurist
Professor of Sociology and Civil Engineering at Colorado State University
Associate Director for the International School of Water Resources

"The Future of Engineering: A Look at the 21st Century"

Friday, February 21, 1997
Lakewood Country Club, 6900 W. 10th Ave.
(From Wadsworth turn East on 10th Ave.)

Cocktails 6:00 p.m. (cash bar) Dinner 7:00 p.m. Program 8:00 p.m.

Call for Reservations: (\$26 per person) (303) 674-2273
after January 15 and before February 18, 1997.
Individual - Name number of guests Group - Reserve a table for 10, need
group name & name of individual making reservations.

Have your name or company name listed in the Colorado Engineers Dinner program

Patron \$250 Sponsor \$100 or receive Special Recognition \$1,000
Mail your one (1) line listing, a contact's name and phone number, and your
check (payable to CEC) to: CEC, 32349 Inverness Dr. Evergreen CO 80439
Send by February 1, 1997

The Colorado Engineering Council was founded in 1919 and is a 501(C)3
organization made up of engineering and scientific organizations.

CEC will use your donations for our participation in the Science and
Engineering Fair, Silver Medal and Certificates for outstanding
engineering students, Gold Medal and Honor Awards presented at
our Christmas reunion.

For additional information or questions,
call CEC Past President George Thomas at (303) 674-7413.

Compliance & More™

Aurora, CO
Your local "One-Stop" international equipment
EMC & Safety compliance consulting firm which
also performs patent searches, Provisional Patent
filings, and MTBF analysis.
UL, CSA, cUL, FCC, CE, TUV, FCC, NOM
Phone: (303)751-4453

David J. Farrell, P.E.

Analog and Digital Electronic Product Design,
Telecommunications, DSP,
Embedded Systems Software

(303)664-0362

FarrellDJ@aol.com
Fax (303)666-6926

The Institute of Electrical and Electronics Engineers - Denver Section

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

Chair	Chair-elect	Sr. Vice Chair	Vice Chair Member Services	Vice Chair Student Activities	Secretary	Treasurer
Fred Jones EMC Engineers 2750 S. Wadsworth Suite C-200 Denver, CO 80227-3400 (303) 988-2951 (303) 985-2527 Fax f.jones@ieee.org	Ron DeLyser University of Denver Dept. of Elec. Eng. University Park Denver, CO 80208-0177 (303) 871-2034 (303) 871-4450 Fax rdelyser@du.edu	Kevin Wright NEI Elec. Power Eng. P.O. Box 1265 Arvada, CO 80001 (303) 431-7895 (303) 431-1836 Fax w.k.wright@ieee.org	Cliff Alston Lockheed-Martin 1307 E. Belleview Denver, CO 80121 (303) 971-9020 (303) 977-1907 Fax clifton.j.alston@lmco.com			Trevor Pfaff Peak Power Eng. P.O. Box 340 Golden, CO 80402 (303) 279-7607 (303) 279-7597 Fax tre4p@aol.com

Senior Past Chair / Programs- Bob Struthers, (303) 843-2235, r.struthers@ieee.org
 Junior Past Chair - Dave Richmond, (303) 843-2465
 Society Chapters - Fred Jones, (303) 988-2951, f.jones@ieee.org
 Educational Activities - Francis Long, (303) 753-4677, flong@du.edu
 Pre-College Student Activ. - Gary Coblenz, (303) 388-6322, pccoden@interramp.com
 Student Fund - Edward Pitchkolan, (303) 966-3707
 Student Branch Activities -
 Professional Activities (PACE) - John Tsucalas, (303) 798-5769, jtsucalas@aol.com
 Professional/Industry Liaison - Jeff Wilson, (303) 388-6322
 Audit -
 Finance - Jeff Wilson, (303) 388-6322, pccoden@interramp.com

Membership - Fareed Hasan, (303) 843-2347
 Nominations - Dave Richmond, (303) 843-2465, d.richmond@ieee.org
 Conference Activities - John Nelson, (303) 431-7895, nei19@ios.orci.com
 Awards & Bylaws - Bob Struthers, (303) 843-2235, r.struthers@ieee.org
 Long Range Planning -
 Publicity -
 Publications - Pete Koloditch, (303) 843-2976, Fax (303) 843-2623,
 p.koloditch@ieee.org
 Publisher - Anita Wanberg, Phone/Fax: (303) 220-8042
 Black Hills Subsection -
 Centennial Subsection -

Chapter Officers

Magnetics - Jim Cates, (303) 673-4126, james_cates@stortek.com
 Joint Vehicular Technology/Communications - Mark Shriver, (303) 364-0676
 Joint Power Engineering/Industry Applications - Trevor Pfaff, (303) 279-7607,
 tre4p@aol.com
 Reliability - Sam Keane, (303) 673-5963
 Laser & Electro-Optics - Andrew Aust, (303) 497-3942, aust@boulder.nist.gov
 Engineering in Medicine & Biology - Norbert Kaula, (303) 315-8973

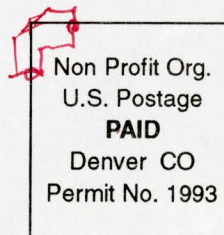
Joint Computer/Information Theory - Bryce Chapman, (303) 721-6200
 Electromagnetic Compatibility-Barry Wallen, (303) 692-6600, bwallen@intellistor.com
 Joint Antenna & Propagation/Microwave Theory & Technology/Geoscience &
 Remote Sensing - Richard Geyer, (303) 497-5852
 Aerospace & Electronic Systems - John Tsucalas, (303) 798-5769, jtsucalas@aol.com
 Components, Packaging, Mfg. Tech-Mike Erni, (303) 678-2437,
 mike_erni@maxtor.com

**Please notify IEEE headquarters of any changes to your address and/or phone number by calling
 1-800-678-IEEE (4333). We can not change this information in the Denver Area.**

The Institute of Electrical and Electronics Engineers



Denver Section
 1834 Fillmore Ct.
 Louisville, CO 80027-1122



Advertising Rates

Your business card or camera-ready artwork can be placed here for exposure to 4000+ engineers, scientists, and managers. Rates:

Ad Size	Single	Multi
Business Card	\$ 25	\$ 20
1/8 page	60	50
1/4 page	150	130
1/2 page	250	225
Full page	400	360
1 page insert	250	200

Send business cards or copy to Anita Wanberg, P.O. Box 4056, Englewood CO 80155-4056. Make checks payable to IEEE Denver Section.

DAVID B RICHMOND
 2921 SO SIDNEY COURT
 DENVER CO 80231