

RockIEEE Overlook



THE INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS, INC.

Denver Section

May, 1990

IEEE Denver Section - All Chapters Meeting

The Denver Section - All Chapters Meeting will be on the Colorado State University Walking Machine project. This walking machine has been the National winner for the last two years, and has always placed very high in the national competition. It is a computer controlled robotic walking machine. It is being built by the Electrical Engineering and Mechanical Engineering Departments, and will be entered in the SAE Robotic Walking Machine Decathlon. The events in which the walking machine will compete are:

1. Dash: a straight line walk
2. Maneuver: a figure eight walk
3. Foot Placement: stepping over stripes on a floor
4. Hockey: push a puck around a diamond or circle
5. Steps: climb over a set of stairs after a figure "S"
6. Dead Reckoning: autonomous repetition of the maneuver event
7. Sensor-Guided Navigation: autonomous repetition of the maneuver event
8. Vision Guided Foot Placement: autonomous repetition of the foot placement event.
9. Autonomous Step Climbing: repetition of the step event
10. Obedience: maneuvers under voice command

As you can see, the events are increasingly difficult. The machine that completes the highest level of events is awarded the overall winner. CSU students will show video tapes of prior year's machines and will bring their latest version to the meeting. This will be a very popular meeting and you should make your reservations early. There will be a short business meeting and awards presentation prior to the walking machine program.

WHERE: Stapleton Plaza Hotel, 3333 Quebec St.
WHEN: Wednesday, May 16, 1990
TIME: 6:00 p.m. Cash Bar 7:00 p.m. Dinner, \$16.00 (Students \$8.00)*
8:00 p.m. Business meeting, followed by walking machine presentation

RESERVATIONS: Please Call Anita Wanberg, 220-8042 by **12:00 noon, Monday, May 14, 1990**

*NOTE: Students always pay half price at all Denver Section and Society meetings.

The IEEE Denver Section expresses its sincere appreciation 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 AP/MTT/GRS

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

Thursday, May 17, 1990

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

Speaker

April Brown

U.S. Army Research Office
Research Triangle Park, NC

"Gallium Indium Arsenide Heterostructures for Low Noise Amplification, High Speed Logic Circuits, and Lightwave Detection"

Gallium Indium Arsenide has long been recognized for its excellent electronic properties and its wavelength compatibility with low loss optical fibers. With the advent of advanced growth technologies such as MBE and MOCVD, heterostructures with InP and AlInAs layers are now possible. This has led to the development of devices such as the modulation doped field effect transistor (MODFET) and the heterojunction bipolar transistor (HBT) with AlInAs or InP wide gap emitters. The AlInAs-GaInAs MODFET has shown superior MM-wave noise performance compared to the GaAs based MODFETs. Most of the work on InGaAs based HB Ts was done with InP emitters. These MOCVD grown structures exhibited current gains of over 5000. In addition to high speed applications, HPTs are attractive as detectors and drivers for long wavelength opto-electronic circuits.

This talk will address the status of the materials, device properties, circuits and applications of heterostructures based on InGaAs.

Reservations are **not** required. Please call John Dunn at 492-5487 if you have any questions.

IEEE Reliability Society

"Automated Tools To Support Software Reliability"

The Eighth Annual Software Reliability Symposium
Ford Aerospace, Colorado Springs

June 1, 1990
8:30 a.m. - 4:00 p.m.

If you are interested in presenting a paper, call:

Juan Hernandez (719) 590-8880, or
Ron Watts 548-2294

EMC

Electromagnetic Compatibility

Wednesday, June 6, 1990

7:00 p.m.

For more information call:
Mark Lapchak (303) 773-4626 or
Ev Evans (303) 761-9447

Please plan on attending the Section Meeting on May 16, 1990

See front page for details!

Chairman's Message

by Jack Reesy

We just received a blue podium banner in recognition of our 75th anniversary. The Denver Section was organized in 1915 and has achieved this goal only through the efforts of thousands of our predecessors and the present membership. This is an outstanding accomplishment and we should all share the pride in having achieved this milestone.

The annual Area A student paper contest was held last month at CU, Boulder. Scott Hunter from the Air Force Academy and Robert Schultz from the South Dakota School of Mines and Technology were our winners and participated in the Region 5 contest held in Little Rock April 7-8.

May 16th has been chosen as the all Chapters/Denver Section joint meeting. A program featuring the CSU "Walking Machine" is planned so get your reservations in early.

The next Executive Board meeting is April 25, at 7:00 p.m., Diamond Hill, Building D.

Nominations Invited for 1991 IEEE Edison Medal

The IEEE Edison Medal was established by our predecessor Society the AIEE, in 1904. It is presented for "a career of meritorious achievements in electrical science or electrical engineering or the electrical arts." The award consists of a gold medal, small gold replica, certificate and \$10,000. IEEE members are strongly encouraged to submit candidates for consideration for this prestigious award and thereby support the Institute's program of recognition for outstanding technical achievement. Nominations must be received at IEEE Headquarters no later than July 1, 1990. Nomination forms and information may be obtained by contacting: Maureen Quinn, IEEE Awards Board Administrator, 345 E. 47th St., New York, NY 10017. (212) 705-7882; FAX (212) 752-4929.

Past IEEE Medal Recipients

1986 - James L. Flanagan

"For a career of innovation and leadership in speech communication science and technology."

1987 - Robert E. Henle

"For sustained leadership in, and individual contributions to, the science and technology of semiconductor circuits for computing systems."

1988 - James Ross MacDonald

"For contributions to solid state science and technology, and outstanding leadership as a research director."

1989 - Nick Holonyak, Jr.

"For an outstanding career in the field of electrical engineering with contributions to major advances in the field of semiconductor materials and devices."

1990 - Archie W. Straiton

"For an outstanding career in electrical engineering with significant contributions in the fields of radio propagation and astronomy, and in engineering education."

You've got an appointment with Don White in your conference room!

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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. 3800) and delivered to the printer.

Deadlines

September 1990 Newsletter - August 6, 1990
 October 1990 Newsletter - September 3, 1990
 November 1990 Newsletter - October 5, 1990
 December 1990 Newsletter - November 5, 1990
 January 1991 Newsletter - December 5, 1990
 February 1991 Newsletter - January 7, 1991
 March 1991 Newsletter - February 4, 1991
 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.

Schedule of Conferences and Meetings

June 1, 1990	Colorado Spgs.	8th Annual Software Reliability Symposium	Rick Karcich (303) 673-6223 J. Hernandez (719) 590-8880
June 17 - 21, 1990	Colorado Spgs.	Utilities Communications	George Stoll (303) 571-2677
April 12-14, 1991	Fort Collins	Region 5 Conference	Sadrul Ula (307) 766-6268
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
May 11 - 13, 1992	Denver	Vehicular Technology Conf. (VTC '92)	Don Cottrell (303) 871-3752
Sept., 1995	Denver	Petroleum & Chemical (PCIC)	John Nelson (303) 431-7895

Proposed Conferences and Meetings

IAS 1994 - 1995
 ACM/IEEE Design Automation 1994
 PES Joint Power Generation 1994
 PES Summer Meeting 1995
 MTT 1997
 Transmission & Distribution 1997
 ITC 1997-2000

IEEE/ISHM Colorado High Tech Competitiveness Forum May 10, 1990

The IEEE and ISHM (International Society for Hybrid Microelectronics) are planning a "Colorado High Tech Competitiveness Forum" on Thursday, May 10, 1990. The event will last all day from 8:30 a.m. to 4:30 p.m. at the Stapleton Plaza Hotel at 3333 Quebec in Denver near the Stapleton Airport.

Forum Topics and Speakers:

"Role of Foreign Trade in Keeping Colorado Competitive"

Mr. Morgan Smith
 Colorado Director of International Trade

"Competitive Issues in University Education"

G. Gordon Gee
 President, University of Colorado
 Member Council on Competitiveness

"Role of High Tech Industry in Colorado"

Dr. Richard L. Petritz

"Science and Mathematics Education in the K-12 System"

Bob Stack, Science Teacher
 Greeley School System

"Educating Our Engineers For the Future"

Dr. Richard Gowan
 President, South Dakota School of Mines and Technology
 Past President of IEEE

"Role of Government in Keeping Colorado Competitive"

Dr. Phil Bradford
 Director, Colorado Advanced Technology Institute

"Your Role in Keeping Colorado Competitive"

Mr. James Gover, Sandia Corporation

"A State Legislator's Point of View"

State Senator Mike Bird

Master of Ceremonies

Dr. Edward Bernolli
 Chairman of IEEE United States Activities
 Board National Government Activities Committee

The cost of attendance of the forum is \$75.00. Those wishing to attend should contact the following people for registration and more information.

John Meredith, Hewlett Packard (719) 590-3382
 Don Cottrell, Univ. of Denver (303) 871-3752

Centennial Subsection Chairman's Message

by Sadrul Ula

I inherited the Chairman's responsibility for the Subsection during the first week of April. The Centennial Subsection was established in 1986 to better serve the IEEE members from Northern Colorado, Western Nebraska and Eastern Wyoming. We desperately need your input and involvement for the development of interesting and timely programs for the future. Our Subsection will also be hosting the 1991 IEEE Region 5 Annual Conference in Fort Collins. Please volunteer and get involved in our Subsection activities by writing a note or calling me:

Sadrul Ula, EE Department, Box 3295, University of Wyoming, Laramie WY 82071-3295, (307) 766-6268 or (307) 766-2279.

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Centennial - **Sadrul Ula**, Electrical Engineering Dept., University of Wyoming, Laramie WY 82071, (307) 766-6268

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Engineering in Medicine and Biology - **Darrell Jones**, University of Colorado Health Sciences Center, 270-8552, **Jochen Edrich**, University of Colorado Denver, 759-4002
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Joint Communications/Vehicular Technology - **Ken Shugg**, Martin Marietta Information and Communications Systems, 977-9164

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Denver, 556-2715
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249-4501
Reliability - **Juan Hernandez**, National Systems (719) 590-8880 x410

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The Month at a Glance

May 10, 1990

ISHM Competitiveness Forum

May 16, 1990

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AP/MTT/GRS Meeting

June 1, 1990

Software Reliability Symposium

June 6, 1990

EMC Meeting

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