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TEL-INSTRUMENT ELECTRONICS CORP.
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Congress Takes Second Look At AEA

Although the American Electronics Association (AEA) is preparing their annual survey, members of their board, in response to their constituents, are now taking another look at AEA and seeking other sources of information on engineering manpower. IEEE’s USAB Manpower Task Force has also been alerted to the new AEA survey and intends to monitor and act on this tool in the near future.

The membership of IEEE is to be commended for their efforts in challenging AEA and the Congressional leaders that used AEA’s information in effect the wording and intent of the Immigration Reform and Control Act. This issue is far from dead. All efforts should and will be continued. Membership assistance is still necessary to maintain the interest of their Congressional Representatives. Keep Congress informed about manpower issues and they’ll know that we are still alert and seeking to reintstate the original intent of the Senate version of S-2222 (1982).

On January 29, 1983, the Manpower Task Force of USAB met and agreed with the Senate version that requires all foreign students to return home for a period of 2 years to adjust their immigration status, without any waivers or exceptions.

500 Megabucks For Training?

Presently, the 98th Congress of the United States is faced with H.R.562, the “National Engineering and Science Personnel Act of 1983.” This Act will establish a fund of 500 megabucks of the tax payer’s hard earned dollars and deliver this money to the National Science Foundation (NSF), under the name of Engineering and Science, to be spent at their discretion.

The vague rationale quoted is “To provide a national policy for engineering, technical, and scientific personnel, to provide for cost-sharing by the private sector in training such personnel, and for other purposes.”

Briefly, this is the same old tune with the same old lyrics written by academia under a NSF label. Only those associated with the educational establishment will be invited to dance to this melody. A more authentic title might be “Increase Engineering Education Productivity” with a chorus of “It’s better.”

Payments to NSF are to be in 100 megabucks, annual increments with NSF being responsible to report to Congress at no less than every two years. Wouldn’t your company like a contract like this?

You be the judge. A short 5 page, double spaced, 112 line copy of H.R.562 is available from your local Congressional office. You may mark up a copy and send it to your representative and the Committee on Science and Technology.

1982 Engineering Cutbacks

It has been a special honor to have served as Chairman of the Manpower Task Force this year. I believe our has been one of the most active Task Forces in USAB. Much has been accomplished, but there is so much yet to do.

The attached list in cutbacks in engineering companies, provided by Wayne Aman, identifies the impact of the recession on our industry. Clearly, unemployement assistance must receive additional emphasis. The allen engineer, supply and demand projections, and engineering utilization remain extremely important topics for the IEEE.

It is my understanding that Jack Doyle will be shortly announcing a new Chairman of the Manpower Task Force. I strongly urge disciplines believe they have more than curiosity content. He will discuss and demonstrate a variety of practical structures dealing with interferometers, quadrature couplers and parametric amplifiers at audio frequencies, and attempt to show the practicability of microwave language.

TIME AND PLACE TO BE ANNOUNCED IN THE NEXT ISSUE

South Jersey Nominations

Alan H. Stulpin, Chairman of the Nominating Committee, the North Jersey Section has announced the following nominations for Sections of 1983-1984:

Chairman: Anne Geddes
1st Vice Chairman: Eugene Nieniec
2nd Vice Chairman: Ted Higginson
Treasurer: Ed Roelfs
Secretary: John Van Savage
*Member-at-Large: Howard Lash
Maitland McIlvan
Robert Sinunas
Elk Tax
*Three to be selected by the Voting Members

Nominations in addition to those made by the Nominating Committee may be made by petition from the membership. Such nominations must be signed by not fewer than 25 voting members of the North Jersey Section, and transmitted to the Section Secretary for submission to the IEEE Nominating Committee not later than April 7, 1983. The petition must certify that the person(s) nominated have agreed to serve, if elected.


Associate Members: Chance To Advance

If you have a Bachelors Degree or at least five years experience, you are probably qualified for Member Grade. If you have more experience, you may be eligible for Senior Member Grade. You can start advancing to a higher grade by contacting: Don Weinstein, Kulite Semiconductor, 10308 Hoyt Avenue, Ridgefield, N.J. 07657, (1971) 954-3000.

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"The IEEE Newsletter" - March, 1983 - Page 3
Cardiac Assessment With Nuclear Imaging

"Best Test: Assessment of Cardiac Function Employing Nuclear Imaging + Techniques," is the topic of the March 2 meeting of the Metropolitan Chapter of the Engineering in Medicine and Biology Society. The topic will be discussed by S. Heller, PhD, Physics/Eng., Dept. of Nuclear Medicine, Albert Einstein College of Medicine & Montefiore Hospital.

Time: 7:30 PM, Wednesday, March 2, 1983.
Place: Rockefeller University, York Ave. at 66th St., NYC. Tower Bldg., Room 301.
Pre-Meeting Dinner: Tower Cafeteria, 6:30 PM.
Further Information: Rahul Mehra, Ph.D., Department of Cardiology, Brooklyn V.A. Medical Center, 800 Poly Place, Brooklyn, N.Y. 11209.

BGE Sets Meetings
Future meetings scheduled by the NY/NJ Section Cable and Consumer Electronics Chapter are:
All meetings will be held at the Willie Medical Center, 20 West 46th St., NYC, at 7:30 PM.

Gas Insulated Substations
The March 23rd meeting of the North Jersey Power Engineering Society will feature a presentation on "Gas Insulated Substations." The speakers will be: Joseph Kasprzyk, Brown Boveri and Cie., and Fabian Farrell and John Courtot, both associated with Jersey Central Power and Light Co.

The presentation will include: (1) the reasons for electing to use the gas insulated design. (2) Gas insulated equipment which is manufactured by Brown Boveri. (3) Utility operating experience with gas insulated equipment at two substations on the JCP&L system.

About The Speaker
Joe Kennedy is Manager of Electric System Marketing at Brown Boveri in Greensburg, Pa. He has been with the company since 1959 and has worked in the area of equipment application and production management. He has been involved with gas insulated substations equipment since 1970.
Mr. Fabian C. Farrell, the Substation Engineering Manager, and Mr. John J. Courtot is Substation Design Manager at Jersey Central Power and Light Co. Both are BSEE graduates and have been in the Substation Department for 16 years. They are responsible for all development and design aspects of the company's substations and are intimately familiar with the Morrisron and Smithsonian GIS Substations.

Place: Jersey Central Power and Light Co., Madison Ave. and Punchbowl Rd., Morris

The Management Of Federal Emergencies
The NY/NJ Chapter of the Engineering Management Society will hear Allan Zeno

About The Talk
Federal Emergency Management Agency (FEMA) program, in outline, will be presented before top business and technology. In addition to the Federal Program, there will also be a Marketing Conference Broadcast to be held on Tuesday morning. It will be followed by the keynote Luncheon at noon featuring guest speaker Joseph Govin, President of Grumman Aircraft Engineering Corp. For Electro/83 is a Film Theatre which will present a daily program of technical and general-interest films. Branches of the New York Coliseum all three days.

Three tutorial seminars will be offered at Electro/83: "Artificial Intelligence," "Managing the Creative Person," and "Direct Broadcast Satellites." These special-fee events will be held in the Sheraton Centres on Tuesday, March 28. Of interest will be the Special Exhibit on Office Automation where participants will get hands-on experience. The exhibit will include all electronic mail, facsimile, electronic mail, and an information utility. All of these systems will be linked by a computer network and will be located in various locations throughout the convention in kiosk-type booths.

A regular shuttle bus service will connect the New York Coliseum and Sheraton Centres. These free buses will operate from 8:30 AM to 5:30 PM daily.

Electro/83 is jointly sponsored by regional chapters of the Institute of Electrical and Electronics Engineers (IEEE) and by the Electronic Representatives Association (ERA). Electro alternates on an annual basis between Boston and New York.

Mini/MicroNortheast 83 will be held in conjunction with, but separate from, Electro/83.

In addition, the Chapter Members can register free by using the Registration Card bound in this issue.

Student Activities By STELLA LAWRENCE
METROPOLITAN STUDENT COUNCIL PRIZE PAPER CONTEST — NEW DATE: APRIL 10, 1983
The Metropolitan Student Council Prize Paper Contest will be held on Sunday, April 10, 1983 at the Branson Ort Technical Institute in New York City. The prizes this year have been increased for Seniors and Juniors to: First Prize $250, Second Prize $150, Third Prize $100, Fourth Prize $50. In addition, there will be a separate contest for freshmen and sophomore students with prizes of $1st; $150; 2nd $100; 3rd $50 and 4th $25. The best paper in each member school will also win an award of $25.

The deadline for the contest has been changed to Tuesday, March 29th. All papers must be submitted to the Contest Secretary, Dr. Charles Rubenstein, Chair
m, Dept. of Electrical Technology, Branson Ort Technical Institute, 44 East 23rd St., New York, N.Y. 10016, (212) 675-7428. All contestants must be members in good standing of the IEEE.

REGION I PRIZE PAPER CONTEST
The Region I Prize Paper Contest will be held in New York City, in conjunction with ELECTRO '83, on Thursday, April 21, 1983. This year, due to a gift of $2500 from ELECTRO, the Region I Prizes will be:
First Prize: $2500
Second Prize: $1000
Third Prize: $500
Fourth Prize: $100

Why Enter the Prize Paper Contest? This year, due to the efforts of Alex Grunewald, a student winning the MSC Prize Paper Contest, can also win the Re
gion I first prize of $2500, in addition to the huge popularity of Electronic Technology. It is not too late to start now. YOU might be the lucky winner!

ELECTRO83 MEETING, THURSDAY, MARCH 10, 1983
The next meeting of the MSC will be held at Technical Career Institutes, 260 W 31st Street between 7th and 8th Avenue. The meeting will be hosted by Prof. Fernan
do Sepulva, Student Activities Chairman of the N.Y. Section.

The MSC meeting is being sponsored by METSAC and the N.Y. Section. One of the most important topics discussed will be the Professional Awareness Conference, that is, its purpose, and how schools can prepare proposals for professional awareness conferences.

The Speakers for the evening will be: Victor Zouridis, Area B Chairman IEEE Region I and Alex Grunewald, Regional Professional Activities Chairman. Lunch will be served at 6 PM, followed by a discussion at 7 PM. All schools with branches in the METSAC area will be represented. The Branches Program Committee is five representatives per school.

Parking in the garage next to the turtle building is $4.50, with TCI verification. Branches that preregister with Prof. Sekula will be reimbursed for the garage fees for one car.

All Branches should not miss this very important meeting! ELECTRO '83

On April 19, 1983 New York City will become the electronics capital of the world. Approximately 50,000 "delegates" will gather for the opening of ELECTRO '83, the international electronics confer
cence. Just about everything new and signifi
cant in electronics will be there! Every
thing is happening in New York this year.

This year ELECTRO '83 will be held in conjunction with Mini/Micro-Northeast and will utilize all four floors of the New York Coliseum plus the Sheraton Centre. It will consist of two conferences and shows in one!

The convention will feature the newest in electronics technology. ELECTRO '83 is for you come and meet outstanding engineers, learn about the latest discoveries, see the exhibits!
Electro/83 Tutorials
April 18, 1983 - Sheraton Centre, NYC

Tutorial: "Artificial Intelligence and its Applications"

"Experts in artificial intelligence are being paid $1000 a day as consultants" said the president of an association for artificial intelligence (AI). The interest in AI is increasing at an accelerated pace. DOD considers this technology to be of the highest priority. This tutorial will cover the fundamentals of AI with special emphasis in the knowledge-based system (KBS) and theorem proving approaches. Automated reasoning, machine learning, and problem solving will be covered more fully.

Applications of AI will be concentrated in the following areas: Automated programming and software development; Management decision-making; design automation of electronics; Automated testing of circuits/systems; Medical systems; Military systems, (command, control, communications, and intelligence) (C3I); Robotics; and Automated Manufacturing. Projection of future AI applications to robotics in military, space, and manufacturing will conclude the tutorial.

Program Speaker
Robert Hong, Technical Assistant to Grumman’s Director of Systems Engineering will be the Program speaker. Previously, Mr. Hong was Director of Software Systems Analysis and Design and Section Head of Computer Equipment Design. Prior to joining Grumman, he was a Research Section Head to Sperry Unisys Systems Management and has more than thirty years of experience in computer and system technology. Mr. Hong received a BAE degree from Columbia University, a BSEE from the Cooper Union, and has completed his doctoral course requirements in System Science from PINY where he is an adjunct professor. Presently he is Chairman of the Long Island IEEE Computer Society.

Tutorial: WORKSHOP ON DBS (Direct Broadcast Satellites)

This session will provide an introduction and overview of all major aspects of this new and challenging broadcast technology. Topics to be covered will range from the business environment, system requirements and satellite hardware to home receiver design, encoding schemes and plans for enhanced video transmission.

The draft program includes the following topics:
1. Introduction (Overview, Definitions, Standards)
2. Business Environment
3. System Considerations (Equipment requirements, Path Loss, Ant Size/NTI/CIH)
4. Satellite Systems and Hardware (Transponder, Control)
5. Uplink/Downlink Hardware
6. Home Receiver System (Antenna, Front End, TV Interface Unit)
7. Enhanced Video Techniques
8. Encoding Systems
9. Future Possibilities

Registration—Electro/83 Tutorials

- Artificial Intelligence ($165 members, $190 non-members)
- Direct Broadcast Satellite ($170 members, $195 non-members)
- Management Of The Creative Person ($180 members, $205 non-members)


Name ______________________________ IEEE No. ______________________________
Affiliation ________________________ Phone ______________________________
Address ______________________________

Please enclose required fee made payable to "METEAC"

North Jersey Section Social

Free—Beer, Wine, Soda, Coffee, Cheese, Snacks and the opportunity to relax and meet with friends and associates.

Admission: Free to IEEE Members, and one guest per member.

Friday, March 18, 1983, 6:00 PM to 10:00 PM at the ITT Club House, 417 River Road, Nutley, N.J. Parking at rear of ITT Aviation Div. Bldg., 390 Washington Ave., Nutley, N.J.

Distinguished Lecturer On Microstrip Antennas

Distinguished AP-S Lecturer Keith R. Carver of New Mexico State University will address the May 11 meeting of the North Jersey Chapter of MTT/APS. Dr. Carver will discuss analytical and practical empirical techniques used in the design of microstrip antennas.

About the Talk
Microstrip antennas are attractive as a means of satisfying performance criteria for low profile, lightweight, conformable narrow-band radiators for use as individual radiators or as unit elements in either planar or conformal arrays. In the past five years there has been an enormous growth of interest in the microstrip antenna, particularly by the theoretical community which has produced so much literature on the subject that it is difficult to separate the analytical techniques which are currently useful to the designer from those which are of strictly academic interest. In the same period of time, a great deal of practical design experience has been accumulated including a better understanding of the tolerance constraints placed by coating techniques and substrate dielectric constant variability, along with many practical approaches to the design of microstrip patches for specialized applications. Microstrip arrays are now used routinely in aerospace systems applications.

In this presentation by the AP-S Distinguished Lecturer, Keith R. Carver, a broad approach toward the design of microstrip antennas is offered, emphasizing those analytical techniques which are truly useful. Dr. Carver will also present a survey of data 박은 a variety of practical empirical techniques. The presentation will cover two major areas of interest: planar arrays discussed, with particular emphasis on the problems and pitfalls in the design of monolithic feed systems for microstrip arrays. Several practical microstrip designs and arrays are presented which are currently in use. The intent of the presentation is to provide some design approaches which would be helpful to the antenna engineer.

Time and Place to be Announced in the Next Issue.

About the Speaker
Keith R. Carver received the BS degree from the University of Kentucky in 1962 and the MS and PhD degrees from The Ohio State University in 1963 and 1967, respectively, with all degrees in electrical engineering. He was on the faculty of the University of Kentucky from 1967-89 and joined the faculty of New Mexico State University in 1969 where he is Professor of Electrical Engineering. He has recently finished a 16-month assignment at NASA Headquarters, where he was Program Manager for Radar Remote Sensing Systems. He is currently Director of the Engineering Research Center at New Mexico State University.

Dr. Carver is the author of numerous articles on microwave antennas, micro- wave, remote sensing and wave propagation. He is the co-author of the textbook "Electromagnetics," 2nd ed. with Dr. John Kraus. He is President of the IEEE Geoscience and Remote Sensing Society, is on the National Research Council’s Committee for U.S. Army Basic Research, and is a member of USRI Commission F.
SECTION BANQUET--APRIL 13, 1983

A time to relax, unwind and enjoy ——
A time to pay tribute to our New Fellows ——
A time to honor our new Senior Members ——
YES it’s time for the Annual Section Banquet

Following the enthusiastic response of those who attended the Banquet the past five years, we are returning to the Chanticleer in Millburn. The affair is scheduled for Wednesday evening, April 13, 1983. Each ticket is $19.50 and includes a complete prepaid Cocktail Hour preceding dinner. Spouses and guests are welcome.

Reservations required by April 2, 1983. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Banquet, contact Anne Giedlinski at 377-3175 (evenings).

Use this form for Banquet reservations enclosing a stamped self-addressed envelope.
Reservations required by April 2, 1983. Mail reservation request to:

Anne Giedlinski
200 Brooklake Rd.,
Florham Park, N.J. 07932

Enclosed is ______ Please forward ________ tickets (make checks payable to North Jersey Section IEEE) to:

Name: __________________________________________
Address: ________________________________________
__________ Phone: ________ Zip: ______________________

I would like to share a table (seating_______) with the following:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Banquet Menu

Reception
Tart Shells Portuguese
Stuffed Mushrooms Graham
Broiled Chicken Livers Monticello
Aubergine Supreme
Pastries Hors d’Oeuvres Assorted
Cantonese Egg Rolls - Sauce Anglaise
Frankfurter Puffs
Veal Souffles a la Oscar
Danish Liver and Potato Souffles
Quiche Lorraine
Shrimp Soto Mayer - Sauce Romanoff
Miniature Pizzas
Baked Clams Crosetti
Clams on Half Shell
Oysters on Half Shell
Veal Scaloppini a la Tiberius
Chicken Mornay
Petite Stuffed Cabbage - Hungarian Style
Baked Stuffed Shells - Sauce Mariner
Rice Pilaf
Fresh Chinese Vegetables
Baked Sugar Cured Ham
Petite Party Breads
Unlimited Cocktails
Wine and Beer

Dinner
Salad Valencia
Assorted Imported Cheeses Passed
Imported Flat Breads
Roast Prime Ribs of Beef - Sauce Naturale
Stringbeans Almondine
Glazed Belgian Carrots
Potato Chanticleer
Petite Dinner Rolls/Butter
Coffee/Cream
Chocolate Mousse
(Liquor during and after dinner — individual responsibility)