The IEEE

Newsletter

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It is not necessary to inform the North Jersey Section when you change your mailing address. The NEWSLETTER and other section mailings use a list provided by IEEE's national headquarters in New York. This means the Section has no need to maintain a mailing list or addressing plates. Section membership records are changed when Headquarters notifies us.

New Jersey Bell Tour

On Tuesday, April 9, the North Jersey Chapter of the Communications Society will present a tour of the New Jersey Bell Telephone Company complex at Rochelle Park, New Jersey. Network control, microwave, No. 5 Crossbar, and TSPC facilities will be discussed at this location.

TSPC, or Traffic Service Position Center, is one of the latest operator assisted control centers and may be of interest since no familiar patch cord boards are employed. This facility as well as the others will have a Bell representative answer questions of both a technical or general nature.

For further information, please contact: Norman Hettinger, (201) 488-2100, Ext. 212.

Time: 7:30 P.M., Tuesday, April 9, 1974
Place: New Jersey Bell Building, Passaic Ave., Rochelle Park, New Jersey.

Student Paper Contest

Each year the Metropolitan Student Council (MSC) of the IEEE sponsors a Student Prize Paper Contest which is supported by the New York, North Jersey, and Long Island Sections of the IEEE. This year the contest will be held under the auspices of Fairleigh Dickinson University (FDU), Teaneck, New Jersey on April 27, 1974 from about noon to 8:00 P.M. Dr. M. Yang, Branch Counselor at FDU, and MSC representatives will be responsible for the arrangements. The Contest Secretary is Joseph C. Antonaccio. For details concerning the contest he may be contacted at 22 Dartmouth Drive, Hazlet, N.J. 07730, or by calling (201) 222-6880 during working hours, or (201) 739-1762 after 6:00 P.M.

The four judges who will judge the written version of the submitted papers are the following: Mr. Alex Gruenwald, Power Engineer, Long Island Lighting Co.; Dr. R.W. Muise, Supervisor at Bell Laboratories, Holmdel; Mr. Eric Sumner, Executive Director, Bell Laboratories, Whippany; Dr. David Wayne, Assistant Professor State University of New York, and Regional Student Activities Committee Chairman.

For the oral presentation, two more judges are selected either from colleges having no representatives in the oral contest or from industry.

Engineers' Picnic

The Engineers' Picnic will be held on Saturday, May 11th, at the State University at Stony Brook, starting at approximately 12 noon.

The price schedule is as follows:

IEEE (or technical society student member) and one guest	$2 each
Student and one guest	$4 each
Regular IEEE or technical society member and one guest	$4 each
Regular non-member and one guest	$6 each
Children under 12	$0.50 each

The Picnic should prove to be the ideal affair to celebrate the end of a successful academic year.

The SUNY at Stony Brook Long Island has ideal facilities, suitable for either a beautiful, sunny May day or a change of plans due to rain (indoors).

Members of the Picnic Committee are: Bill Bakonyi, Jim Heiman (MSC Vice-Chairman), Barry Pearlman, SUNY Stony Brook delegate, and Alan Zauzmer, MSC Secretary and PINY Delegate. Further information may be obtained from Bill Bakonyi, P.O. Box 315, Garfield, N.J. 07026. Phone: (201) 478-9578 after 10:30 P.M.

Stored Lighting Heat

The Power and Industrial Division of the New York Section will hold a General Meeting on "Power Conservation and Utilization of Stored Lighting Heat" on Wednesday, April 24, 1974.

A representative from the Electric Energy Association, Inc. will discuss thermo-electric optimization of space conditioning systems. In light of present needs to conserve energy resources the significant contribution to the heating demands of a building which recovery of lighting heat can provide cannot be ignored.

This meeting will also include election of the New York Section P&I Division Executive Board.

Time: 6:00 to 7:30 P.M., Wednesday, April 24, 1974
Place: Consolidated Edison Auditorium, 4 Irving Place, New York, N.Y.
Refreshments: 5:30 to 6:00 P.M.

Amos E. Joel, Jr. Elected IEEE COMSOC President

Amos E. Joel, Jr., Switching Consultant at Bell Laboratories Switching Systems Engineering Division, Holmdel, N.J., has been elected president of the IEEE Communications Society.

Mr. Joel began his Bell Labs career in 1940. After holding positions of increasing responsibility in switching systems development, he was named to his present position in 1967. Joel holds more than 50 patents on his work, among which was the largest U.S. patent issued to that time.

A native of Philadelphia, Pennsylvania, Joel received both B.S. and M.S. degrees in electrical engineering from MIT. Mr. Joel, his wife and two daughters, reside in South Orange.

IEEE Revisions

As soon as a pension reform bill is enacted by Congress and signed by the President, professional engineers will be eligible for a plan they hope employers will adopt giving them vested benefits from the first day of employment.

The plan will seek to do for engineers what TIAA-CREF has done for school teachers. Engineers have suffered from the fact that the Internal Revenue Service would not permit separate pension plans for them because that would violate the rules against discrimination in favor of highly compensated employees.

This was taken care of in the Senate pension reform bill. If the provisions put in the bill survive the final measure, the IEEE, either individually or cooperatively with other societies, will be ready to submit to Internal Revenue a multi-employer plan that would allow vesting from the first day on the job.

The purpose in moving so fast is to keep the field from being fragmented by different engineer pension plans. IEEE, with more than 100,000 U.S. members, is the biggest organization among the one million professional engineers in the country. It will invite others to join with it in backing the plan.

The plan will be devised so that the same percentage contribution that employers are making for non-engineering employees will be paid to their engineering employees.

This may be more complicated than it sounds, for many employers pay stated benefits and contribute whatever necessary to pay for them, rather than making a fixed contribution and letting it buy whatever benefit it can.

Since many employees leave before they become entitled to benefits, the percentage of payroll contributed by the employer for pensions cannot be determined simply by looking at the benefit schedule.

Because there would be no such forfeitures under any program with immediate vesting, the engineers will have to take less for each year of service. In the past, IRS refused to permit this trade-off, saying that vesting is too valuable a benefit to be treated in that way.

Under the present formula, the plan as an equation would be: A (contributions to salaried employees minus engineers) over B (total salaries of the salaried group) equals X (contributions to engineers' immediate vesting plan) over Y (salaries of engineers). A, B, and Y are known, and X is the maximum contribution an employer can make to the new plan and have it tax-qualified.

Reprinted from 'IEEE Spectrum'

Domestic Satellites

April 9, 1974	*Review of Licensed Space Segment Operation* *Walter Hinchman—Chief Common Carrier Bureau* *Federal Communications Comm.*
April 16, 1974	*Space Segment Technology* *Speaker from Hughes Aircraft*
April 23, 1974	*Earth Segment Operation* *James Cuddihy—MGR—Satellite Engineering* *RCA Global Communications Inc.*
April 30, 1974	*Satellite Services (Panel)* *P.J. Alden—A VP & Gen'l. Mgr. Satellite & Trans. Svcs.* *Western Union* *R.E. Button—Director Satellite Opr.-Teleprompter Corp.* *J.L. Clark—Vice Pres.-Communications Projects,* *General Telephone & Electronics* *Additional Speaker from the Bell System*
May 7, 1974	*Economics of Satellite Operation* *Speaker from Bell System*

Lectures will be presented at 6:00 P.M. at the Engineer's Club on 32 W. 40 St., New York City. The fee for this series is $25 for members and $30 for non-members.

Course reservations may be made by contacting: Ms. C.C. Stretton, AT&T, 195 Broadway, New York, New York 10007. Phone (212) 393-2463.

Student Night At NCE

Despite the gas shortage and a threatening snow storm, the "show went on" and Student Night was a success. It took place on February 6 at NCE.

The proceedings took place in the Student Center Ballroom, after a cafeteria style dinner in the dining room. The IEEE Student Branch Chairman, Tony Rivera, opened the meeting with introductory remarks and with the awarding of door prizes, such as K & E sliderules and RCA manuals. The Vice Chairman, "Skip" Mauser, then introduced the four speakers of the evening.

John Walsh, an IBM marketing specialist, spoke about the pros and cons of marketing. He pointed out the opportunities for higher salary, flexible hours and easier entry into top management on one hand and the great pressures, little job security and competition inside and outside the firm on the other.

Tom Kesolits, a Fort Monmouth engineer, had begun his career in private industry but prefers government service with its greater stability and the opportunities it offers to work on new and important developments for which private industry has neither the resources nor the motivation.

Tom Podesta, a manager at New Jersey Bell Telephone, spoke of the great difficulties and challenges facing an engineer entering the management career. For the right man, however, there can be great satisfaction in working with people rather than going it alone.

Bert Yankielnn, who was Branch Chairman last year, is a junior engineer with American Electric Power. After completing his orientation program in various departments of the company he is now working in instrumentation and data handling. He described the great opportunities for the non-power E.E. in a utility.

Technology Assessment

The IEEE Technology Assessment Group, the North Jersey Chapter of A.I.Ch.E. and N.C.E. are sponsoring a one-day Seminar on Technology Assessment at Newark College of Engineering on Wednesday, April 24, 1974.

Prompted by the government's increasing attention to the second and third impacts of technological development, the conference will deal with technology assessment as a necessary consideration of physical, economic and political growth and will review the present role of TA in our society.

Viewed most commonly as a policy-making process, technology assessments eventually could be the controlling factor in any development with local, statewide, or national implications, according to most experts.

The U.S Government, through its Office of Technology Assessment, is directing more concern toward the consequences of research and development funded through government agencies.

It is only a matter of time, many experts feel, before assessments become a requirement in all sectors of business and industry.

Leaders in the relatively new field are among the speakers at the April conference at Newark College of Engineering.

Dr. Joseph Coates of the National Science Foundation, for example, will discuss the federal government's view on TA.

Walter Hahn of Congressional Research Service of the Library of Congress will address himself to, "Technology Assessment--Key to Tomorrow's Decisions."

A case study in which assessment techniques were applied will be presented by Richard C. Davis, manager of technical forecasting and assessment for the Whirlpool Corporation.

Dr. Sanford Bordman will moderate the conference. He is Director of the Center for Technology Assessment at Newark College of Engineering. Please contact him for details on registration, fees, parking or public transportation, 323 High St., Newark, N.J. 07102

Cable Television

The New York, North Jersey, and Long Island Joint Chapter of the Instrumentation and Measurements will hold its Annual General Meeting on May 8, 1974, 7:30 PM at the Group Public Utilities Service Corp., Interpace Building 260 Cherry Hill Road, Parsippany, New Jersey 07054. The subject of the technical portion of the meeting will be the Technical Aspects of Cable TV.

Mr. Robert V. C. Dickinson, Consulting Engineer will present the discussion centering on the general areas of (1) background material on CATV systems and the current and projected requirement for two way transmission, (2) the methods for and problems involved in two way transmission, (3) a summary of current two way plans and their operation, (4) some thoughts upon the future.

Mr. Dickinson has been a consultant in the field of Cable Television and Broadcasting for the past three years and is presently the President of ECom Corporation, a cable TV and Broadcasting development and manufacturing group. Mr. Dickinson holds an ME degree from Stevens Institute of Technology, was a Navy Pilot, and has worked in the communications field for the past 25 years.

For further information on the meeting call: in New York City, Mr. R. Grossberg (212) 460-4020 or in New Jersey, Mr. D. Roerty (201) 465-2295

Tour Of Edison Lab

The New York, North Jersey, and Long Island Joint Chapter of the Instrumentation and Measurements Group will sponsor a visit to Thomas A. Edison's West Orange Laboratory on Saturday, April 27, at 9:30 A.M.. The laboratory in which Edison worked for the last 44 years of his life is now designated a national historic site.

Out of West Orange came the motion picture camera, vastly improved phonographs, both silent and sound movies, the nickel iron battery and hundreds of other inventions. Edison's record of 1,093 patents has still to be surpassed.

For further information contact:
Mr. John J. Dietz (201) 736-1000 x 442

REGISTRATION-TOUR OF THE EDISON LABORATORY

Mail to:
Mr. John J. Dietz
Edison Electronics Division
McGraw Edison Company
Two Babcock Place
West Orange, N.J., 07051

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POLYTECHNIC INSTITUTE OF NEW YORK–MRI SYMPOSIUM ON April 16, 17, 18, 1974

OPTICAL AND ACOUSTICAL MICRO-ELECTRONICS

General Chairman: A.A.Oliner; Program Co-Chairmen: L.Bergstein and H.L.Bertoni

The twenty-third in a series of international symposia organized by the Microwave Research Institute of the Polytechnic Institute of New York will be held 16-18 April, 1974 at the Hotel Commodore in New York City. The symposium is cosponsored by the Microwave Theory and Techniques Group, the Sonics and Ultrasonics Group and the Quantum Electronics Council of IEEE as well as the Optical Society of America. It is organized with the support of the Joint Services Electronics Program at the Polytechnic.

TUESDAY, 16 APRIL 1974

I Perspectives

"Optical and Acoustical Micro-Electronics: Similarities and Differences," A. A. Oliner, PINY

"New Directions and Applications for Acoustical Micro-Electronics," E. Stern, MIT Lincoln Lab.

"Quantum Electronics in Perspective," R. Kompfner, Stanford U.

II Systems: Present and Future

"Optical and Acoustical Signal Processing," H. J. Whitehouse, Naval Undersea Center

"Applications of Acoustic Surface Wave Devices to Radar Signal Processing," T. W. Bristol, Hughes Aircraft Co.

"An Assessment of SAW Device Performance in Relation to Potential Systems Applications," J. H. Collins, U. Edinburgh, SCOTLAND; J. D. Maines, Royal Radar Establ., ENGLAND

"Advances in Optical-Fiber Transmission Research," T. Li, Bell Labs.

III Imaging and Interface with Biology

"The Development and Applications of Acoustic Microscopy," L. W. Kessler, Zenith Radio Corp., Chicago

"The Application of Surface Acoustic Waves to Optical and Acoustical Imaging," G. S. Kino, Stanford U.

"The Vertebrate Retinal Receptor as a Waveguide," J. M. Enoch & B. R. Horowitz, Washington U., St. Louis

"Optical Micro-Circuitry of the Insect Compound Eye" G. D. Bernard, Yale U.

WEDNESDAY, 17 APRIL 1974

IV Material Properties

"Optical Properties of Long Fiber Waveguides," D. B. Keck & R. D. Maurer, Corning Glass Works

"Light Scattering in Low-Loss Glasses," P. B. Macedo & C. Montrose, Catholic U., Washington, DC

"The Potentialities of Fine-Grained Ceramics for Optical and Acoustical Applications," H. Kahan, D. Stubbs and R. V. Jones, Harvard U.

"A Review of the Properties of Surface Acoustic Wave Materials," A. J. Slobodnik, Jr., A. F. Cambridge Res. Labs., Bedford

V Fabrication Technology

"Fabrication Techniques for Optical & Acoustical Micro-Electronic Devices," H. I. Smith, MIT Lincoln Lab.

"Photoresist Modeling & Device Fabrication Applications" A. R. Neureuther, U. California, Berkeley; F. H. Dill, IBM Research Ctr., Yorktown Heights

"Focusing-Type Integrated Optics" J-I. Nishizawa & A. Otsuka, Tohoku U., Sendai, JAPAN

"Buried Optical Waveguides in Fused Silica by High Energy Oxygen Ion-Implantation," D. Moutonnet & E. V. K. Rao, C. N. E. T., Lannion, FRANCE

"Fabrication of Graded-Index Slab Waveguides by Reactive Sputtering," Y. C. Cheng, W. D. Westwood & E. A. Sullivan, Bell-Northern Res., CANADA

VI Waveguides: Propagation

"Mode Coupling in Graded-Index Fibers" R. Olshansky, Corning Glass Works

"Mode Coupling at a Plate Edge with Application to Acoustic Ridge Waveguides," K. H. Yen, S. Markman, H. L. Bertoni and A. A. Oliner, PINY

"Acoustic Surface Wave Diffraction in the Cubic Approximation of the Slowness Curve," F. Pirio, C. N. E. T., Issy-Les-Moulineaux, FRANCE

"Polarization Independent Optical Waveguides," L. Bergstein, PINY

"Theory and Application of Dielectric Branching Waveguide," H. Yajima, Electrotechnical Lab., Tokyo, JAPAN

"Periodic Waveguides for the Far Infrared," R. Ulrich, Max-Planck-Institut, Stuttgart, GERMANY

VII Waveguides: Coupling, Visualization

"Effects of Groove Profile on the Performance of Dielectric Grating Couplers," S. T. Peng & T. Tamir, PINY

"Magnetic Domains for Integrated Optics," M. W. Muller, M. J. Sun & S. K. Chung, Washington U., St. Louis

"Optical Probing of Acoustic Surface Waves: Application to Device Diagnostics and Non-Destructive Testing," E. A. Ash, U. College London, ENGLAND

"Optical Detection of Surface Acoustic Waves in Layered Media" J. F. Weller, T. G. Giallorenzi, Naval Research Lab.

"Visualization of Optical Fields Propagating in Integrated Optical Waveguides," D. B. Ostrowsky, A. M. Roy and J. Sevin, Thomson-CSF, Orsay, FRANCE; J. Lamoure, Ecole Polytechnique, Paris, FRANCE

THURSDAY, 18 APRIL 1974

VIII Signal Processing

"Surface Wave Bandpass Filters — Components and Subsystems," L. T. Claiborne, Texas Instruments, Inc.

"Compact Microwave Acoustic Surface Wave Filter Bank for Frequency Synthesis," A. J. Budreau, K. R. Laker & P. H. Carr, A. F. Cambridge Res. Labs., Bedford

"An Acoustic Surface Wave Modem for Time-Variant, Dispersive Channels," M. G. Unkauf, Raytheon Co., Wayland

"A Radar Electrooptical Processor," Y. Blanchard, O. N. E. R. A., Chatillon, FRANCE

"Theoretical Comparison of Space-charge-Enhanced Acoustic Surface Wave Convolvers," O. W. Otto, Hughes Res. Labs., Malibu

IX Optical Devices

"Thin Film Distributed Feedback Lasers," C. V. Shank, Bell Labs.

"An Efficient Stark Effect Modulator at 9.6μm," G. Gould, J. T. LaTourrette and W. T. Walter, PINY

"GaAs Schottky Barrier Avalanche Diodes for Integrated Waveguide Photodetectors at 0.905 μm" G. E. Stillman, C. M. Wolfe, J. A. Rossi & J. L. Ryan, MIT Lincoln Lab., Lexington

"Vapor Mirrors for Matched Optical Filtering," B. Senitzky, PINY

X Acoustical Devices

"On Some Recent Developments in Acoustoelectronics in the USSR," Yu. V. Gulyaev, Inst. Radio Eng. & Electr., Moscow, USSR

"Electric Field Echoes in Piezoelectric Materials," R. L. Melcher, N. S. Shiren & D. K. Garrod, IBM Res. Ctr.

"Applications of Electric Field Echoes to Signal Processing and Storage," N. S. Shiren, R. L. Melcher and D. K. Garrod, IBM Res. Ctr.

"Phase-Locked Loop Using Sonic Components," W. C. Wang, H. Schachter, F. Cassara, Jr., K. S. Meng & K. H. Yen, PINY; P. Das, Inst. Politecnico Nacional, Mexico City, MEXICO

"Surface Acoustic Wave Array Transducer and its Applications," C. S. Tsai and L. T. Nguyen, Carnegie-Mellon U.

"Networks for Crossed-Field and In-Line Excitation of Bulk and Surface Acoustic Waves," A. Ballato, U.S. Army Electr. Tech. & Dev. Lab. (ECOM), Fort Monmouth

"Bulk Wave Generation in Surface Wave Devices," W. S. Goruk. P. J. Vella & G. I. Stegeman, Erindale Col., U. Toronto, Mississauga, CANADA

"Applications of Bleustein - Gulyaev Waves," A. I. Morozov, Inst. Radio Eng. & Electr., Moscow, USSR

"Amplification of Surface Waves by Transverse Electric Current in Piezoelectric Semiconductors," Yu. V. Gulyaev, Inst. Radio Eng. & Electr., Moscow, USSR

SPECIAL LATE REGISTRATION

With this notice, advance registration rates apply at the door.

	IEEE & OSA Members	Non-Members
FULL REGISTRATION (with Proceedings)	$35	$45
REGISTRATION ONLY	$20	$25
PROCEEDINGS ONLY (if prepaid by 1 June)	$20	$25
One-Day Rate	$11	$13

Full Program, more details on request

MRI Symposium Committee
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