



The IEEE

# Newsletter

The Magazine of the North Jersey Section

**IS THE ENGINEER RESPONSIBLE FOR THE CONSEQUENCES OF HIS IDEAS?  
ANNUAL NORTH JERSEY SECTION DINNER**

Robin Hood Inn, 1129 Valley Road, Clifton, New Jersey

Thursday, June 18, 1970

*Social Hour – 5:30 P.M.      Dinner – 6:30 P.M.*

JUNE, 1970



## Electroluminescent Devices

The New Jersey Coast Section will sponsor a joint meeting with the North Jersey Section on Wednesday, June 24, 1970, at 8:00 P.M., at the Main Auditorium, Bell Telephone Laboratories, Holmdel, N.J. Dr. B. C. DeLoach, Jr., currently head of the Electroluminescent Device Department at Bell Telephone Laboratories, will present a talk entitled, "Electroluminescent Devices."

### About the Talk

The basic physics, device characteristics and applications potential of solid-state electroluminescent devices will be discussed. The emphasis will be placed on devices utilizing the gallium phosphide materials system, but properties of other materials systems will also be presented. The role of this new class of devices in new information transfer systems will be discussed. Experimental realizations of some systems will be displayed.



### About the Speaker

Bernard C. DeLoach, Jr. received B.S. and M.S. degrees in Physics from Auburn University in 1951 and 1952 respectively. He obtained his Ph.D. degree in Physics from Ohio State University in 1956. He became a member of the technical staff of the Bell Telephone Laboratories in 1956 and has conducted investigations on microwave parametric amplifiers, microwave filters, and microwave solid-state devices. He is currently Head, Electroluminescent Device Department at Bell Telephone Laboratories.

**Time:** Wednesday, June 24, 1970; 8:00 P.M.

**Place:** Main Auditorium, Bell Telephone Laboratories, Holmdel, N.J.

**Pre-Meeting Dinner:** 6:00 P.M., Pleasant Valley Inn, State Highway No. 34, Holmdel, N.J.

**Dinner Reservations:** Call Vasant Prabhu, Home (201) 747-5418, Office (201) 949-4510.

## MEETINGS CALENDAR

### Wednesday, June 3

New York New Technical and Scientific Activities Committee and the IEEE Resource Committee on Material Science — **Microwave Integrated Circuits Seminar — Six Papers** — Monmouth College, West Long Branch, New Jersey. 9:00 A.M. to 4:00 P.M.

### Monday, June 15

1970 Nuclear Symposium — **"Nuclear Instrumentation for Research and Development"** — Deadline for all Papers. (Symposium to be held from November 4 to 6, 1970, at the Statler Hilton Hotel, New York City.) Technical Program Chairman: *Mr. W. W. Managan*, Argonne National Laboratory (D818), 9700 S. Cass Ave., Argonne, Illinois 60439.

### Tuesday, June 16

**First International Computer Group Conference** — Washington, D.C. — **Memory Systems, Terminals, and Peripherals.** Three days, sixteen sessions, approximately fifty papers. Featured luncheon speaker, **Dr. Lee A. DuBridge**, Director of the Office of Science and Technology, and Science Advisor to President Nixon. Washington Hilton Hotel, Connecticut Avenue at Columbia Road, N.W., Washington, D.C., 20009. A full three-day Ladies Activity Program has been developed for the distaff side. Seminar hours: Tuesday and Wednesday—9:00 A.M. to 10:00 P.M., and Thursday, 9:00 A.M. to 4:00 P.M.

### Wednesday, June 17

North Jersey Computer Group — **"Some Problems in the Management of Software Development Projects"** — **Dr. Thomas Crowley**, Speaker. Arnold Auditorium, Bell Telephone Laboratories, Murray Hill, New Jersey. 8:00 P.M. Pre-Meeting Dinner — Wally's Tavern on the Hill, Bonnie Burn Road, Watchung, New Jersey, 6:00 P.M.

### Thursday, June 18

North Jersey Section Annual Dinner (Cover Story) — **Speaker—Mr. Elliot Gruenberg**, "Is the Engineer Responsible for the Consequences of His Ideas?" — Robin Hood Inn, 1129 Valley Road, Clifton, New Jersey. Social Hour — 5:30 P.M., Dinner — 6:30 P.M. Non-members and Wives are welcome.

### Wednesday, June 24

Joint Meeting, North Jersey and New Jersey Coast Sections — **Electroluminescent Devices** — **Dr. B. C. DeLoach, Jr.**, Speaker. Main Auditorium, Bell Telephone Laboratories, Holmdel, New Jersey, 8:00 P.M. Pre-Meeting Dinner—Pleasant Valley Inn, State Highway 34, Holmdel, New Jersey. 6:00 P.M.

### Wednesday, August 26—Friday, August 28

**The First Product Liability Prevention Conference** — Three days, Wednesday through Friday — Newark College of Engineering, 323 High Street, Newark, New Jersey, 9:00 A.M. For further information contact: PLP Conference, P. O. Box 408, Wayne, New Jersey 07470.

### Tuesday, September 15

1971 Winter Power Meeting — Deadline for receipt of papers — (Meeting, January 31 through February 5, 1971, at the Statler Hilton Hotel, New York City.) Technical Program Chairman—*Mr. J. W. Bean*. Write to IEEE Technical Conference Services, 345 E. 47th Street, New York City, New York 10017.

### Wednesday, October 14

**Second North Jersey Conference — New Horizons in Instrumentation** — Two days, eight sessions. Governor Morris Inn, Morristown, N.J.



# The IEEE Newsletter

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Volume 16 June 1970 No. 10

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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.

### NORTH JERSEY SECTION OFFICERS

1969-1970



M.M. Irvine



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## Is The Engineer Responsible?

This controversial question is the topic which Mr. Elliot Gruenberg of IBM will discuss at the *Annual North Jersey Section Dinner*.

Mr. Gruenberg received the BEE degree from CCNY in 1938 and has done graduate work at Polytechnic Institute of Brooklyn. He worked for the U.S. Army Signal Corps during World War II and later worked for the Technical Devices Corporation and the J.H. Bunnell Co. In 1951 he joined the W.L. Maxon



Corporation where he held the position of manager-staff engineering. He joined IBM in 1958 where he has held a series of posts: Advisory Engineer, Technical Director of the Advanced Defense Concept Study, Manager of Advanced Communications, Manager of Space Communications, Manager of Concepts and Applications, and Manager of Radiation System Research.

His present position is *Safeguard Man-*

ager of System Engineering. He is Editor of the *Handbook of Telemetry and Remote Control*. Mr. Gruenberg has a number of patents on electronic devices and has authored several papers for electronic and computer journals. He is a senior member of IEEE and Associate Fellow of AIAA.

*Date:* Thursday, June 18, 1970.

*Time:* "Dutch Treat" Social Hour—5:30 P.M.; Dinner—6:30 P.M.

*Place:* Robin Hood Inn, 1129 Valley Road, Clifton, N.J.

Non-Members including wives are welcome.

## RESERVATION COUPON

Dr. Harlan J. Perlis

Newark College of Engineering

323 High Street

Newark, N.J. 07102

Telephone: (201) 645-5492/5472

Enclosed please find my check (or money order) made payable to the North Jersey Section IEEE in the amount of \$\_\_\_\_\_ (\$5.00 each) for \_\_\_\_\_ tickets for the 1970 Annual Dinner, Thursday, June 18, 1970. Enclosed is a self-addressed stamped envelope.

Name \_\_\_\_\_

Address \_\_\_\_\_

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Phone \_\_\_\_\_

## The Cover: The Crises of Environment—1970

In keeping with the theme of this month's topic at the Annual North Jersey Section Dinner—"Is the Engineer Responsible for the Consequences of His Ideas?"—this issue features a composite cover photograph illustrative of some aspects of this timely problem.

The photos were furnished through the courtesy of the Center for Urban and Environmental Engineering at the Newark College of Engineering, which has as its primary mission the guiding of the vast resources of the College toward the solution of urban problems.

The center serves as a catalyst in this venture, melding the talents of the faculty and the facilities of the laboratories and computer installations to act and react to

the problems facing our urban cities. It has as its guidelines the organization of research and experiments dealing with a variety of technological and urban problems including areas of pollution (air, water, and noise), housing (rehabilitation and new technology), water resources, transportation (new modes, systems analysis, traffic flow and comprehensive planning), municipal affairs, data information systems, and urban planning.

Members interested in obtaining further information on the scope of the Center's activities may write to: Dr. Harold Deutschman, Technical Director, The Center for Urban and Environmental Engineering, Newark College of Engineering, 323 High Street, Newark, N.J.



## Reliability Chapter Nominating Committee Offers '70-'71 Slate

The Nominating Committee of the Reliability Chapter has proposed the following slate of Chapter Officers for the 1970/1971 term of office:

Chairman, *Vernon D. Gray, MEPCO Inc.*

Vice-Chairman, *Gregor L. Hetzel, Bell Telephone Laboratories.*

Secretary, *Fred Mendez, Northern Precision Laboratories.*

Members at Large: *Richard Jacobs, Newark College of Engineering; Dr. R. P. Misra, Newark College of Engineering; John H. Gerth, Bell Telephone Laboratories; Richard N. Wenman, Singer, General Precision; Dr. Emil C. Neu, Stevens Institute of Technology.*

The Nominating Committee members are: John Gerth, Chairman; Richard Jacobs, and Emil Neu.

## Computers: Challenge For The Seventies

The First International Computer Group conference will be held in Washington, D.C. Authorities from France, Germany, Japan, Italy, England and Israel will be present.

An in-depth study will be made of the expanding Terminal, Peripheral and Memory Systems markets. The presentation of approximately fifty papers as well as several dynamic panel discussions comprise the sixteen major sessions of this conference.

Dr. Lee A. DuBridge, Science Advisor to President Richard M. Nixon will speak at the conference luncheon.

For further information write: 1970 IEEE Computer Group Annual Conference, P.O. Box 5976, 7400 Wisconsin Avenue, Bethesda, Maryland 20014.

For information on the three-day Ladies Activities Program, contact Mrs. Judy Roseman, 8108 Cindy Lane, Bethesda, Maryland 20034.

**Time:** June 16, 17 and 18, 1970; 9:00 A.M. to 10:00 P.M. Tuesday and Wednesday, and to 4:00 P.M. on Thursday.

**Place:** Washington Hilton Hotel, Connecticut Avenue at Columbia Road, N.W., Washington, D.C. 20009.

## Microwave Integrated Circuits Seminar

June 3, 1970

### PROGRAM

One of the fastest growing areas of the electronics industry has been microwave integrated circuits (MIC's). The impact of MIC's is quite large and covers the complete spectrum of microwave electronics. The highlights of this tremendously important area will be covered in six papers presented by nationally known experts including the "1970 MTT National Lecturer." The entire gamut is covered by including state of the art methods and techniques from design and fabrication to computer optimization of MIC's. Audience participation is welcomed and encouraged.

### SPEAKERS & TOPICS

REGISTRATION (and coffee) 9:00 A.M. - 9:30 A.M.

INTRODUCTION: R. W. Benjamin, Monmouth College, W. Long Branch, N. J.

#### SESSION I

"Techniques for Fabrication and Production of Microwave Integrated Circuits," C. Sneling, Texas Instruments, Dallas, Texas.

"Lumped Constant Microwave Integrated Power Amplifiers," W. E. Poole, R. A. Brunson, M. Caulton\*, RCA, Somerville, N. J. \*RCA, Princeton, N. J.

"Lumped Constant, Hard Substrate, High Power Phase Shifters," P. Onno and A. Plitkins, Bell Telephone Laboratories, Whippany, N. J.

#### SESSION II

"Design of Miniature Microwave IC X-Band Receivers for Monopulse and CW Applications," J. F. Bunker, Microwave Associates, Inc., Burlington, Mass.

"Computer Optimization of Microwave Integrated Circuits," B. Cave, Optimal System Research, Inc., Manasquan, N. J.

MTT National Lecturer - 1970

"Microwave Integrated Circuits," H. Sobol, RCA Electronic Components Div., Somerville, N. J.

**SPONSORS**—New Technical and Scientific Activities Committee, New York Section IEEE; IEEE Resource Committee on Material Science.

**HOST**—Monmouth College, Electronics Engineering Department, W. Long Branch, N. J.

Advance Registration Form (At-the-door registration - \$5.00 additional)

To: *Samuel Ponczak*

*RCA Electronic Components Div., Zone 3A  
Somerville, N. J. 08876*

I (we) wish to register for the one-day seminar on Microwave Integrated Circuits (Materials and Design) to be held at Monmouth College on June 3, 1970. I understand the registration fee is \$25 for members of IEEE and \$30 for non-members. A check for \$\_\_\_\_\_ is enclosed.

Name .....Position .....Member .....

Company .....Phone .....

Address .....ZIP CODE .....

Make checks payable to "NTAC." All reservations will be acknowledged.



## Liability Prevention Conference Slated For NCE in August

We take pleasure in announcing...*The 1st Product Liability Prevention Conference*...for executives in manufacturing, commerce and insurance.

The problem of product liability and what to do about it—more critical today than ever before—will be canvassed intensively by such experts as *Harry M. Philo*, specialist plaintiff counsel in product liability; *Mrs. Elizabeth Hanford*, deputy assistant to Mrs. Virginia Knauer, Presidential adviser on consumer affairs; *William Kaye*, former technical assistant to Mrs. Knauer and to her New York City counterpart; *T. A. Daly*, director for reliability and safety, Westinghouse Electric; and *Theodore Jacobs*, chief counsel, National Committee on Product Safety.

There will be a total of 27 distinguished speakers (many of them contributors to Product Liability and Reliability, pub-

lished by the Machinery and Allied Products Institute), plus a panel of prominent attorneys.

Discussion of manufacturing, brand name (and private label) and insurance aspects of product liability prevention will cover such subjects as:

Product evaluation to determine risk ... documentation ... insurance costs ... selecting the supplier by testing ... design for liability prevention ... dangers of small-quantity testing ... packaging, labeling and instructions ... impact of government legislation ... and many more.

For those interested, the third day of the conference will be devoted to a tour of one of the leading test laboratories on the East coast, to see first hand how product testing aids in liability prevention.

Attendance will be limited to the capacity of facilities at NCE. Registrations will be accepted in order of receipt. A \$150 registration fee (\$125 for sponsor-organization members) will also cover two luncheons, a banquet and a copy of the proceedings.

*Time:* 9:00 A.M., Wednesday, Aug. 26 through Friday, August 28

*Place:* Newark College of Engineering, 323 High Street, Newark, N.J.

### REGISTRATION FORM

*To:* PLP Conference

P. O. Box 408

Wayne, N. J. 07470

Enclosed please find my check (or money order) made payable to the PLP Conference in the amount of \$\_\_\_\_\_ (Members, \$125; Non-members, \$150) for the 1st Product Liability Prevention Conference, August 26 thru August 28. Enclosed is a self-addressed stamped envelope.

Name \_\_\_\_\_

Address \_\_\_\_\_

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Phone \_\_\_\_\_

## Software Development Problems

The Computer Group, at its June meeting, will hear Dr. Thomas Crowley describe some of the management problems in software development projects. As the director of an effort that is widely regarded as the most complex and ambitious software system design ever undertaken, he is eminently qualified to address this topic. Types of problems which will be discussed include:

- (1) Basic technical problems of programming projects;
- (2) Interrelations of technical problems with management problems;
- (3) Difficulties in organizing the job;
- (4) Difficulties in matching personnel to the job.

### About the Speaker

Thomas H. Crowley is Executive Director of the Safeguard Design Division at Bell Telephone Lab., Whippany.

Since joining Bell Laboratories in 1954, Dr. Crowley has engaged in research on magnetic logic devices, switching theory, sampled-data systems, and computer-aided logic design. He was appointed Head of the Computer Utilization Department in 1962, Head of the Computer Research Department in 1963, Director of the Computing Science Research Center in 1965,

and Director of the NIKE-X Programming Laboratory in 1967. He assumed his present position in 1968.

Dr. Crowley received the Bachelor's degree in electrical engineering in 1948 and the M.A. and Ph.D. degrees in mathematics in 1950 and 1954, respectively, all from Ohio State University. He worked in the university's Antenna Laboratory from 1948 to 1954.

Dr. Crowley has been granted three patents on magnetic devices and digital circuits and has written a number of books and articles on computers and magnetic devices for several technical journals. He is a member of the Institute of Electrical and Electronics Engineers and the honor societies Eta Kappa Nu, Tau Beta Pi, and Sigma Xi.

*Time:* Wednesday, June 17; 8:00 P.M.

*Place:* Arnold Auditorium, Bell Telephone Laboratories, Murray Hill, N.J.

*Pre-Meeting Dinner:* 6:00 P.M., Wally's Tavern on the Hill, Bonnie Burn Road, Watchung, N.J.

*For Further Information, contact:* Dr. Richard R. Shively (201) 386-4715. Non-members are welcome. There is no admission charge.

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## IF ONLY I HAD BEEN TOLD EARLIER ABOUT THE NORTH JERSEY CONFERENCE!

This statement was heard throughout the North Jersey Section last Fall. The occasion was the First North Jersey Conference held at the Governor Morris Inn, October 8-9, 1969. That conference was the result of years of discussions which concluded that the 6000 members of the North Jersey Section had many common interests and would eagerly support such a venture. Unfortunately, such was not the case. The conference was well-received by those who attended it, but I feel that it would have been a genuine success had all of the members been better informed.

The North Jersey Executive Committee has agreed to sponsor a Second North Jersey Conference this year. To prevent a repetition of such statements this year, we will see to it that you are kept aware of this activity. PLEASE MARK YOUR CALENDAR FOR OCTOBER 14-15, 1970. The Second Annual North Jersey IEEE Conference NEW HORIZONS IN INSTRUMENTATION will be held October 14-15, 1970, at the Governor Morris Inn, Morristown, N.J.

This year the format has been changed. There will be both morning and afternoon sessions on both of the days and an evening session on the first day. A total of eight technical sessions are being organized: one by each of the six North Jersey Group Chapters and two special sessions are being set up by the Joint Chapter of Instrumentation and Measurement. This conference is being planned as a service to the IEEE membership and to the engineering community of North Jersey and its surrounding areas. The sessions will consist only of invited papers presented by experts in their fields. As was the case last year, a bound PROCEEDINGS will be available at the Conference with the full text of all papers.

The following is the Tentative Program:

October 14, 1970

9:30 A.M.

*Registration*

10:30

*Welcome*

10:35-12:30 P.M.

*Session I - "Instrumentation Hazards"*

Organized by the I&M Group

12:45 P.M.

*Keynote Luncheon*

2:30 P.M.-5:00 P.M.

*Session II - "Data Communications"*

Organized by the Comm Tech Group

*Session III - "Transducers and Sensors"*

Organized by the Controls Group

7:30 P.M.-9:00 P.M.

*Session IV - Roundtable "Gap Between Engineering Education and Engineering Practice in Instrumentation"*

Organized by the I&M Group

October 15, 1970

9:30 A.M.-12:00 Noon

*Session V - "What Cost Reliability"*

Organized by the Reliability Group

*Session VI - "Power System Measurements"*

Organized by the Power Group

12:15 P.M.

*Luncheon*

2:00 P.M.-4:30 P.M.

*Session VII - "Gigahertz Measurements"*

Organized by the MTT/AP Group

*Session VIII - "Mini-computers in Measurement Systems"*

Organized by the Computer Group



More complete program and advance registration information will be sent to you well in advance of the Conference. Any comments, suggestions, or offers of help will be appreciated by the Steering Committee. Please contact Walter Edge of Monsanto (228-3800), our Program Chairman; Al Leigh of Bell Labs (386-4136), our Local Arrangement Chairman; or me at NCE (645-5492/5472).

*Dr. Harlan J. Perlis, General Chairman  
Second North Jersey Conference*

## At Last Year's Conference

Scenes From The First North Jersey Conference



## The Final Report Of The: Section Chairman

As the time draws near to transfer the administration of the Section to your newly elected officers, it is with a great deal of pride that the present Executive Committee reviews the achievements of this past year. By virtually any measure, this has been an outstanding year for the Section. The foundation provided by last year's Committee, together with the enthusiastic participation of the membership, has yielded rich dividends.

The Section presently has six active Professional Group Chapters which have held a total of 24 meetings this year. In addition, the Section co-sponsors nine other Group Chapters with nearby Sections (New York, Long Island, and Princeton). A new Multi-Group Chapter is currently being formed which will encompass: Nuclear Science, Engineering in Medicine and Biology, Geoscience Electronics, System Science and Cybernetics.

The Section's first Measurements Conference was convened in October. The reception was so favorable that it has been decided to adopt it as an annual conference to be held in October.

For the first time the MTT/AP sponsored a seminar featuring Recent Highlights in Microwave Engineering. Also, the Reliability Group and other members have completed plans for a two-day seminar on Product Liability.

Particularly gratifying has been the recognition of our members' technical contributions. Without question, our membership this year has captured the lion's share of awards! In addition to the two awards presented by the Section, the following honors were received by members of our Section:

9 Newly elected Fellows

4 Major Awards:

David Sarnoff

Morris Liebmann

Founders

Behn International Communications

1 Senior Award (Electro-Acoustical Group)

4 Certificates of Appreciation (National Power Group)

Our relations with adjacent Sections

have never been stronger. For the first time, we have held joint meetings with the New Jersey Coast Section. In addition, following a precedence set last year, our November Executive Committee meeting was held jointly with the Executive Committees of the New York and Long Island Sections. Problems of mutual interest were discussed and there was a healthy exchange of ideas.

The Education Committee has continued to render outstanding service to our membership. They conducted six courses this year, all of which were enthusiastically received.

Our Annual Students' Night was well attended and we played host this year to the annual Student Activities Day sponsored by the Metropolitan Student Council (which we co-sponsor with neighboring Sections).

Our Newsletter continues to be one of the best in the Region.

As this program year comes to a close, I wish to extend my personal thanks to all who contributed to the success of this year's activities. In particular, I wish to express my warmest appreciation to the members of the Executive Committee for their many hours of hard work in planning and implementing the many activities the Section sponsored this year. It has indeed been a privilege to have worked this past year with such a capable and dedicated group.

*M. M. IRVINE*

*Section Chairman 1969-1970*

### NORTH JERSEY SECTION EXECUTIVE COMMITTEE 1969-1970

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