



The IEEE

Newsletter

The Magazine of the North Jersey Section

Annual Section Dinner

Robin Hood Inn, Clifton, N. J. June 19, 1969

Volume 15, Number 10
June, 1969

**NORTH JERSEY SECTION
EXECUTIVE COMMITTEE 1968-69**

SECTION OFFICERS

Chairman

Joseph G. O'Grady

Vice-Chairman

Merle M. Irvine

Treasurer

Herbert E. Blaicher, Jr.

Secretary

Robert G. Sokalski

Member-at-Large

Carl Torell

Member-at-Large

Dr. Raj P. Misra

Jr. Past Chairman

Bernard Meyer

AUTOMATIC CONTROL (G-23)

Chairman

Dr. H. J. Perlis

Vice-Chairman

Edgar Van Winkle

COM TECH (G-19)

Chairman

F. E. Willson

Vice-Chairman

M. Westheimer

COMPUTERS (G-16)

Chairman

E. R. Byrne

**MICROWAVE THEORY &
TECHNIQUES (G-17)**

Chairman

D. S. Lerner

Vice-Chairman

B. Pallan

POWER (G-31)

Chairman

Paul Watson

Vice-Chairman

Rudolph D. Stys

RELIABILITY (G-7)

Chairman

John Gerth

Vice-Chairmen

George Ebel

Richard N. Wenman

**CHAIRMEN OF
STANDING COMMITTEES**

Awards

Albert R. D'Heedene

Education

Bernard Geertsma

Groups Coordinator

Louis M. Small

History and Procedures

Frank Polkinghorn

Membership

Maitland McLaren

Nominations

Stephen A. Mallard

Publications

David Wiener

Publicity

Harry Raven

Program

Joseph W. Fink

Student Affairs

James W. Earle

The Final Report of The Section Chairman - - - Hail and Farewell!

Another program year is coming to a close, and with it, my term of office as Section Chairman. One of the final duties is to submit to the Regional Director of the Institute, a detailed report on all phases of Section and Group Chapter activities for the 1968-69 year ending June 30, 1969. I am pleased to be able to report that this has been another year of steady improvement in all phases of our operations. As a result, the services offered to our membership are better — and in the final analysis, this is all that counts.

The North Jersey Section had 5453 members as of December 31, 1968. Of these, 161 held the honorary grade of Fellow, 895 were Senior Members, 3306 were Members, 515 were Associates, and there were 576 Student Members. In size, North Jersey ranks sixth in size — but there is more to this story! There are more Fellows in North Jersey than in any other Section in the world. Our student membership ranks fourth. And in addition, the geographic area of our Section embraces an unusually diverse cross-section of engineering disciplines and also includes some of the most distinguished engineering and industrial organizations in the world.

The Section therefore, in planning its program, has always had to meet a special kind of challenge in organizing and presenting educational and technical programs which meets the needs of this type of membership, as well as the special needs of our students. This we have done.

The following is a "Capsulized" version of the "North Jersey Section Report 1968-69" which will be submitted to IEEE.

1. The quality of our technical and educational programs was of the highest calibre. There were more meetings scheduled and attendance at these meetings was better than in some previous years.

2. The format and editorial policy of the NEWSLETTER was changed, beginning with the September 1968 issue. As a result, our publication — now one of the best in the Region — is more pleasing to the eye, and easier and more interesting to read.

3. Additional programs were made available to our student members. (However, we still have a long way to go in providing more meaningful services for our students.)

4. Plans were finalized to hold our first Section Conference in October 1969. This conference, "New Horizons in Measurement", we hope will be an annual affair of the Section.

In summary, the objectives established at the beginning of the year, to work in closer harmony with our several Group Chapters, to improve our meetings, to improve the NEWSLETTER, and to give more assistance to our student members have all been met.

However, these objectives could not have been achieved through the efforts of any one individual. These are the result of the combined efforts of a dedicated number of Group Chapter Officers, and the Chairmen and members of *all* of the Standing Committee shown on page two of this issue. To these men the membership owes a sincere vote of thanks. In addition, the individuals who make up the Section Executive Committee, which was the group responsible for managing the Section for this period, was one of the finest I have had the privilege to work with in some time. Each has contributed in great measure.

Speaking for myself, it was a good year. Not without problems, but not without success either.

In the September issue of the NEWSLETTER, when inviting the general membership to become more "involved" in the activities of the Section by joining one of the several committees, it was said that "your membership in IEEE will be worth more for the effort". From my own experience, I can tell you that it is!

Thanks to all who helped.

J. G. O'Grady
Section Chairman, 1968-69

WHEELER LABORATORIES, INC.

A Subsidiary of Hazeltine Corporation
Engineering for Radar and Communications
Microwave Systems and Components
Antennas and Feed Networks
Solid-State and Laser Applications
Great Neck, N. Y. (516) 482-7876
Antenna Laboratory at Smithtown, N. Y.

The IEEE Newsletter

Published monthly except July and August by the North Jersey Section of the Institute of Electrical & Electronics Engineers, Inc. Office of Publication: 9 Little John Road, Morris Plains, N. J.

Volume 15 June 1969 No. 10

NEWSLETTER STAFF

EditorEmil C. Neu
Managing EditorM. M. Perugini
Student Activities Editor.....Alan H. Stolpen
Associate EditorDavid T. Wiener
Associate EditorMartin Hollander
Associate EditorBarry Janoff
Associate EditorRaymond Dusault
Associate EditorGary Woerner

Deadline for all material is the 25th of the second month preceding the month of publication.

All communications concerning the Newsletter, including editorial matter, advertising, and mailing, should be addressed to:

THE NEWSLETTER

c/o Girard Associates, Inc.

P.O. Box 666

Mt. Arlington, N. J. 07856

Phone: 398-5524

Subscription: 75¢ per year through dues for members; \$1.50 per year for non-members.

Second Class Postage Paid

at Morris Plains, N. J.

**REPORT ALL ADDRESS CHANGES TO:
INSTITUTE OF ELECTRICAL AND ELECTRONICS
ENGINEERS INC., 345 EAST 47th STREET
NEW YORK, N. Y. 10017**

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 1968-1969



J. G. O'Grady



M. M. Irvine

ChairmanJoseph G. O'Grady
Vice ChairmanMerle M. Irvine
TreasurerHerbert E. Blaicher, Jr.
SecretaryRobert G. Sokalski
Member-at-LargeRaj P. Misra
Member-at-LargeCarl C. Torell
Jr. Past ChairmanBernard Meyer

The Newsletter, June 1969



North Jersey Section Annual Dinner

The speaker at this Annual Dinner and Third Past Chairman's night will be Mr. George A. (Joe) Ewald, Transmission and Distribution Engineer, Public Service Electric & Gas Co. His topic will be "Utility Viewpoint: Concern Over Aesthetic And Environment" (this issue's cover illustration).

Mr. Ewald, a native son of New Jersey, received his M.E. degree from Stevens Institute of Technology in 1924. Starting as a Cadet Engineer with Public Service, he was assigned to the Distribution Department where, since July 1965, he has been in charge of the general office staff functions involving design, construction and operation of over-



The Substation above and the cover photo show how proper planning and landscaping make these structures an asset to the communities in which they are located.

head and underground transmission and distribution plant.

A Senior Member (Life) of the IEEE and of the Transmission and Distribution Committee of the Edison Electric Institute, Mr. Ewald has worked on their subcommittees as well as the American Standards Association Sectional Committee on the National Electrical Safety Code. He is licensed as a Professional Engineer by the State of New Jersey. His hobbies are photography and salt water fishing.

Time: Thursday, June 19, 1969; "Dutch Treat" Social Hour, 5:30 P.M., Dinner 6:30 P.M.

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

Non-members including wives are welcome.

RESERVATION COUPON

Mr. Joseph W. Fink, Jr.

Public Service Electric & Gas Co.

200 Boyden Ave.

Maplewood, N. J. 07040

Telephone 201-621-6800 Ext. 726

Enclosed please find check (or money order) made payable to the North Jersey Section I.E.E.E. in the amount of \$..... (\$4.50 each) for

..... tickets for the 1969 Annual Dinner, Thursday, June 19, 1969.

Name

Address

No.

Street

City

State

Zip

Phone:

North Jersey Com Tech Meeting

The North Jersey Com-Tech Group will hold a meeting at 8:00 P.M. on June 10, 1969 at Communications Systems Inc., Paramus, New Jersey. The meeting will feature election of officers and an open discussion on the future of the Com-Tech Group in New Jersey.

Time: Tuesday, June 10, 1969, 8:00 P.M.

Place: Communications Systems Inc., East Side of Route 17, Opposite Garden State Plaza, Paramus, New Jersey.

Pre-meeting Dinner: Cambridge Inn at Garden State Plaza.

Fifteenth Annual Student Activities Day

The seven papers presented orally on Student Activities Day were:

First Prize (\$200.00):

"Design of a Limited-Vocabulary Speech Recognition System"

David I. Durst

Michael Lefkowitz

The Cooper Union



David Durst and Michael Lefkowitz of Cooper Union, First Prize;

Roger Chang of MIT, Second Prize; Robert Snow of NCE Day Division, Third Prize;

Michael Markulec Jr. of NCE Evening Division, Fourth Prize.

Second Prize (\$100.00):

"Reliability Analysis Programs for Electric Power Distribution Systems"

Robert Chang

Massachusetts Institute of Technology



Third Prize (\$75.00):

"Fabrication of a 80-100 Watt CO₂ Laser for Use as a Research Tool"

Robert V. Snow

Newark College of Engineering,
Day Division

Fourth Prize (\$50.00):

"High Power Nanosecond Pulse System"

Michael J. Markulec, Jr.

Newark College of Engineering,
Evening Division



The Judges

Other papers submitted included:

"Burst Error Correction for $\frac{1}{2}$, $\frac{1}{3}$ Convolutional Codes Using Threshold Decoding Principles"

John P. Paci, Jr.

Hofstra University

"Project Moonbounce"

Howard Burger

Pratt Institute

"A Successful F'M Demodulator With Feedback"

Anthony H. Handal

Roger J. Sledz

The Polytechnic Institute of Brooklyn



Professor R. Russ, Chairman, Student Affairs, Region 1

The Fifteenth Annual Student Activities Day was held at the campus of the Newark College of Engineering on Saturday, April 19th.

Student Activities Day and Student Activities Night are organized by the Metropolitan Student Council in order to maintain contact between the various Student Branches and Student Associate Branches in the Metropolitan New York Area. All colleges in the area encompassed by the Long Island, New York, and North Jersey Sections of the IEEE having either a Student Branch or Student Association Branch are entitled to representation on the Metropolitan Student Council.

Member schools include:

The Bronx Community College
The City College of New York
Columbia University

The Cooper Union
Fairleigh Dickinson University
Hofstra University
Manhattan College
New York City Community College
New York Institute of Technology
New York University

Newark College of Engineering
The Polytechnic Institute
of Brooklyn
Pratt Institute
Queensboro Community College
R C A Institutes, Inc.
Stevens Institute of Technology

The highlight of the Fifteenth Annual Student Activities Day was the Metropolitan Student Council Annual Student Paper Contest. All Student Papers were submitted by members of Student Branches and Student Associate Branches via their Branch Counsellors to the Co-Secretaries of the Contest: *Peter T. Mauzey*, Member Technical Staff, Bell Telephone Laboratories, Holmdel, New Jersey, and *Eugene I. Weitz*, Associate Electrical Engineer, American Electrical Power Service Corp., New York City, New York.

Four judges from industry judged the papers as submitted, with the identity of the author and his school withheld. The authors of the best seven papers were invited to present their papers orally

on Student Activities Day. Two additional judges were selected for the oral presentations. The criteria used for evaluating and grading the submitted papers was established by the Metropolitan Student Council.

The four Judges for the papers in written form were:

Anthony Cirillo, Member Technical Staff, Bell Telephone Laboratories, Holmdell, New Jersey; *Melvin W. Green*, Manager, Transmission Equipment, ITT Defense Communications Division, Nutley, New Jersey; *Michael J. DiToro*, Vice-President - Science, Cardion Electronics, General Signal Corp., Woodbury, New York; and *Donald L. Yenoli*, Microwave and Antenna Engineer, Sedco Systems, Inc., Farmingdale, New York.


The two additional Judges added for the Oral Presentations were:

Dr. Harry R. Mimno, Director, Region I, IEEE, Lexington, Massachusetts, and *Mr. Robert Sokalski*, Senior Engineer, Aircraft Radio Corporation, Boonton, New Jersey.

How much is clean air worth? At Public Service, we think it's worth a lot . . . for everybody's sake. We annually invest millions of dollars in pollution control research and equipment, as well as cleaner fuels to feed our electric generators. Cleaner air is one more reason why Public Service and three cooperating utilities are investing \$300 million in the new Salem Nuclear Generating Station now under construction.

The infinite energy of the atom can produce vast amounts of low-cost electricity without polluting the atmosphere. Today, Nuclear Energy is the cleanest source of power available to help us meet New Jersey's growing demand for low-cost electricity.



 Public Service Electric and Gas Company

nuclear energy

Clean
Energy
for
Clearer
Skies



New Section Officers 1969-1970

Chairman

Merle M. Irvine

is head of the PAR Tactical Data Processing Department of the Bell Telephone Laboratories at Whippany, New Jersey. Since 1955, when he started with Bell Labs, he has worked on defense projects. These included Airborne Bombing and Navigational Systems; and the Data Processing Systems for Ballistic Missile Defense Systems.

Dr. Irvine served as Chief Radio Officer in the Merchant Marine from 1943 to 1946.

Dr. Irvine was active for several years on the Program Committee of the North Jersey Section, including one year as secretary and one as chairman. Currently he is Vice Chairman of the Section.

He received his B.S. in Engineering Physics from Montana State College in 1950; his graduate work was in physics at Lehigh University; there he received his M.S. in 1952 and his Ph.D. in 1955.

Dr. Irvine is a member of: American Physical Society, Society of the Sigma Xi, Association for Computing Machinery, and is president of the Morris County Engineer's Club. He holds amateur radio call W2PM. He also is listed in the American Men of Science.

Vice Chairman

H. E. Blaicher, Jr.

was graduated from the Pennsylvania State University in 1949 with a degree of B.S. in Electrical Engineering. Following graduation he entered the cadet engineer training course of Jersey Central Power & Light Company. Since then he has worked in various assignments in distribution engineering, system planning and in engineering computer applications. He is presently Distribution Planning Engineer for Jersey Central Power & Light Company and its sister company, New Jersey Power and Light.

Mr. Blaicher served on active duty with the U. S. Army from 1943 to 1946.

Mr. Blaicher is a senior member in IEEE and has served as chairman of the Education Committee during the 1961-62 season, as an IEEE representative on the New Jersey Engineer's Committee for student guidance, and as chairman of the Power Group Chapter in North Jersey Section, IEEE during the 1964-65 season. He is presently Treasurer of the North Jersey Section.

Mr. Blaicher lives at 45 Ferncliff Road, Morris Plains, where he and his wife are active in community affairs.

Secretary

Carl C. Torell

is Manager, Utility Sales, Newark District of the Federal Pacific Electric Company. His experience has been primarily in the field of Sales Engineering. Previously, he was with the Pacific Electric and Manufacturing Co., a forerunner of Federal Pacific and with the Westinghouse Electric and Manufacturing Co.

Mr. Torell graduated from the University of Michigan in 1931 with a B.S. in Mechanical Engineering. He was elected to Tau Beta Pi.

He is a Senior Member of the IEEE. He served as Vice Chairman and Chairman of the Power Chapter and is at present Member-at-Large of the North Jersey Section. Prior to the merger, he was active in the AIEE. He served on the Educational Committee and was Vice-Chairman of the Related Activities Committee of the New York Section. Also he was Past Chairman of the Related Activities Committee of the New Jersey Division of the New York Section.

Treasurer

Robert G. Sokalski

is at present a Project Engineer at Aircraft Radio, Boonton, N. J.

He is presently Secretary of the North Jersey Section. Previously he was Secretary, Vice-Chairman and Chairman of the North Jersey Automatic Control Group, in successive years.

Mr. Sokalski received his B.S. from Stevens Institute of Technology in 1962 and an M.S. from NCE in 1967.

Member-at-Large

Raj P. Misra

is at present a Professor of Electrical Engineering at Newark College of Engineering.

In addition to his position at NCE, Dr. Misra is a consultant to a number of companies, including Texas Instruments, Inc. He is also on the Board of Directors of Solitron Devices, Inc. His past experience include research and development work for the Philco Corporation. He has also taught at Cornell University, the University of Pennsylvania, and Lehigh University.

Dr. Misra is a senior member of both the IEEE and the American Society for Quality Control and a member of the Societe Francaise des Ingenieurs et Techniciens Du Vide. He is also a member of the Phi Kappa Phi and Sigma Xi. Dr. Misra was the founding chairman of the North Jersey Chapter on Reliability

and Chairman of the 1964 Basic Failure Mechanisms and Reliability in Electronics Conference. He is the author of over eighteen technical papers and articles.

He is presently a Member-at-Large of the North Jersey Section.

Dr. Misra presently resides at 1 De Camp Court, West Caldwell, New Jersey, with his wife and four children.

Member-at-Large

Paul Watson

majoring in Electrical Engineering at Carnegie Institute of Technology. After working for three summers for Jersey Central Power & Light Company in their cadet program, he began full time service with the company in 1960 in the Coast Division Engineering Department. Since then, he has worked in various assignments in distribution engineering and is presently Assistant Engineer, Underground Distribution section.

Mr. Watson is a member of IEEE, member of the Education Committee and is presently Chairman of the Power Group Chapter in North Jersey Section.

Mr. Watson lives at 39 Olmstead Road, Morris Township.

Past Chairman

Joseph G. O'Grady

holds the position of Assistant Laboratory Engineer at the Maplewood Testing Laboratory of the Public Service Electric and Gas Company. He joined the company in 1948 and has held various positions in the Electrical Division of the Laboratory until 1964 when he was appointed to his present position. He is a graduate of the College of Engineering of New York University where he received a BEE Degree in 1954; he is also a former member of the instructing staff of the Special Courses Division of the Newark College of Engineering.

He has been a member of the Section Executive Committee for several years, having been Chairman of both the Section Program Committee and the Publicity Committee. He is presently serving as Section Chairman.

Mr. O'Grady is a senior member of both the Institute of Electrical and Electronics Engineers and the Instrument Society of America, and he also represents his company as a sustaining member to the National Association of Corrosion Engineers.

He resides at 11 Bowling Drive, Livingston, New Jersey, with his wife, Muriel, and their three sons — John, Brian and Peter.

At The . . . 1969 Fellows-Award Dinner



Fellows and their wives on the dais



At the head table . . .



After dinner dancing



*Dinner Committee: Herb Blaicher, Harry Raven, Al D'heedene,
Joe O'Grady and Maury Irvine*

Extra High Voltage Course

The Education Committee of the North Jersey Section is planning an eight-session study course on the subject of EHV—extra high voltage (345KV and higher) — to afford an opportunity for those concerned to learn of the latest in technology and of the approach to the new problems presented by this high voltage.

The series will be held on Thursday nights, beginning October 2 and concluding on November 20, 1969, at the General Operating Headquarters of the Jersey Central Power & Light Company in Morristown, New Jersey.

The subjects to be covered in individual lectures by experts in the field are Planning, Insulation for Switching Surge Voltages, Insulation for Power Frequency Voltages, Calculation of Lightning Performance, Substation Design, EHV Circuit Breakers, EHV Transformers, and Relaying.

A more complete description of the subjects as well as registration forms will appear in later issues of the *Newsletter*. The course sponsors are Mr. A. J. Magyar of the Jersey Central Power & Light Co., phone 201-539-6111, and Mr. J. C. Gass of the Allis-Chalmers Mfg. Co., phone 201-687-3700.

Mepco Names Sales Head

Mepco, Inc., Morristown, appointed *Melvin A. Riel*, manager of microcircuit sales effective May 1. During the past three years Mr. Riel was Mepco's Western Regional Sales Manager in charge of the sale and marketing of the company's product line in 11 western states.

IT'S GOOD BUSINESS TO WORK AT



RADIO CORPORATION
Best Benefits - Profit Sharing
Equal Opportunity Employer

DON HAINES
ADMINISTRATIVE
ENGINEER

ENGINEERING & RESEARCH
6001 W. Dickens Ave.
Chicago, Ill. 60639
312 - 745-4807



DATA DELAY DEVICES
253 CROOKS AVENUE
CLIFTON, NEW JERSEY 07011
(201) 772-1106

**DELAY
LINES**

LUMPED, DISTRIBUTED
MECHANICALLY VARIABLE
ELECTRICALLY VARIABLE

FILTERS

H-P; L-P; B-P
TUNED CIRCUITS

COILS

TOROIDS, VARITORS
DECADE STANDARDS

CAREER POSITIONS IN ELECTRONICS



Bob Sinusas, Research Engineer, Monsanto Electronics Center, West Caldwell, N. J., working on a Time Sharing Terminal used for Circuit Analysis.

Do You Have These Things In Common With Bob Sinusas?

1. **YOU LIKE THE CHALLENGE OF THE INSTRUMENT INDUSTRY** — testing, developing, perfecting new instruments to out-perform the old ones and at less cost to the user.
2. **YOU ARE LOOKING FOR A SCIENTIFIC CLIMATE** where you are encouraged to innovate . . . maybe revolutionize . . . in the instrument field.
3. **YOU WANT TO BE IN ON THE GROUND FLOOR** of a new department of a large, established company.
4. **YOU WOULD LIKE TO WORK IN AN ATMOSPHERE OF GOOD WILL AND MUTUAL HELP** where your ideas and efforts are appreciated — where you will be a valued member of the big "M" team.

The Monsanto Electronics Technical Center in West Caldwell, New Jersey, gives you a chance to be a part of today's most fascinating growth industry . . . **ELECTRONICS**. Challenge, excitement, personal satisfaction and ample financial reward are yours when you become a member of the big "M" team. Top benefits include an attractive tuition refund program.

NEEDED NOW:

SENIOR MICROWAVE CIRCUIT DESIGN ENGINEER

For research and development department with experience in digital, analog and logic circuit design and microwave oscillators and samplers.

INTERMEDIATE ENGINEER

For signal and pulse generator circuitry.

QUALITY ASSURANCE ENGINEER

For frequency synthesizer team.

Call, Wire, or Write: **RIAL SIMONS**

MONSANTO ELECTRONICS TECHNICAL CENTER

620 Passaic Avenue, West Caldwell, New Jersey 07006

An Ideal Suburban Community Only 35 Minutes from Manhattan

Tel: (201) 228-3800

An Equal Opportunity Employer