Calendar

Wednesday, January 13

Electron Devices

8:00 P.M. — "Laser Demodulation"

Dr. Fred Sterzer
GT&E, Willets Pt. Blvd.
Bayside, L. I.

6:00 P.M. — **Pre-meeting Dinner**
Kam Fong Restaurant
Francis Lewis Blvd., L. I.

Wednesday, January 13

N. Y. C&E Div.

7:00 P.M. — PERT

Stuart M. Rothfeld
United Engineering Center
345 E. 47th St., N. Y. C.

Thursday, January 14

Power

7:30 P.M. — "Applications of Engineering Economics"

Mr. Bert J. Blewitt
Jersey Central—N. J. Power & Light
Madison Ave. & Punch Bowl Rd.
Morristown, N. J.

Thursday, January 14

Aerospace & Navigational Electronics

8:00 P.M. — "Space Navigation"
Mr. Jacques Gansler
Willkie Memorial Auditorium
20 W. 40th St., N. Y. C.

6:00 P.M. — **Pre-meeting Dinner**
Old Seidelberg
626 — 3rd Ave., N. Y. C.

Thursday, January 14

N. Y. Computer Group

8:00 P.M. — "RCA Computer Line"
J. F. Callahan
United Engineering Center
345 E. 47th St., N. Y. C.

6:00 P.M. — Pre-meeting Dinner
Studio Restaurant
865 — 2nd Ave., N. Y. C.

Tuesday, January 19

Communications Technology

8:00 P.M. — "VLF Communications Systems"
Mr. W. S. Alberts
Garden State Plaza Auditorium
Paramus, N. J.

6:00 P.M. — **Pre-meeting Dinner**
Cambridge Inn
Garden State Plaza
Paramus, N. J.

Make Reservations

Saturday, January 23

1:00-3:00 P.M.

Tour Con Edison's Control Center

Reservations by January 19

Wednesday, January 27

Component Parts & Reliability

7:00 P.M — "Integrated Circuits — Characteristics & Applications"

United Engineering Center
345 E. 47th St., N. Y. C.

Thursday, January 28

N. Y. Computer Group

8:00 P.M. — "The Bunker Ramo Computer Line"

Bunker Ramo Corp. (Teleregister)
375 Deerfield Ave.
Stamford, Conn.

6:00 P.M. — Pre-meeting Dinner
Gaslight Restaurant
Post Road, Riverside
Stamford, Conn.

Thursday, February 11

Long Island Lecture Series
Start 5 Lectures on Phased Arrays
Brooklyn Poly. Graduate Center
Farmingdale, L. I.

The IEEE
Newsletter
The Magazine of the North Jersey Section

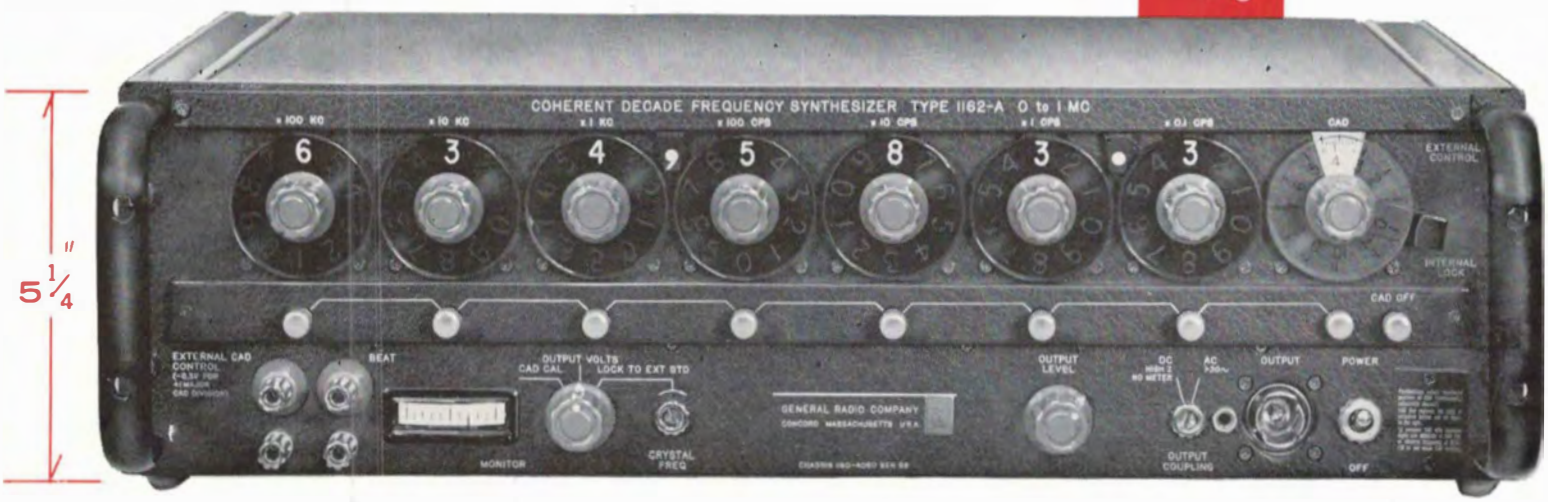
ANNUAL BANQUET & DANCE

ROBIN HOOD INN, VALLEY ROAD, CLIFTON, N. J.

SATURDAY, FEBRUARY 20, 1965, 7 P.M.

JANUARY 1965 Volume 11 / Number 5

a **NEW** approach in signal sources



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LOCAL SERVICE AND REPAIR

For your convenience, the New York Office has a Service Department, manned by factory-trained service engineers. This Department can supply prompt and efficient repairs or recalibration of any G-R equipment. Considerable time can be saved by taking advantage of these facilities.

Editorial Notes

Encore!

In last month's editorial, we said "Goodbye," although yet in the living room, like the guest who lingers over his "Good Nights." We are on our way, however.

First on the agenda for the New Year is the Annual Banquet and Dance. This will be held on Saturday, February 20, 1965, at the Robin Hood Inn, Valley Rd., Clifton, N. J., starting at 7 P.M. If you fill out and mail the reservation blank which is on Page 5, you will assure your attendance. The **limit** is **250**, so **hurry**. At this Annual Banquet, we honor the newly elected Fellows of the IEEE, and this year, we can celebrate St. Valentine's Day, 6 days late.

To help all the program and publicity chairmen who send us data about projected meetings, we thought you'd like an outline to follow for a complete presentation.

Sponsor:
Section, Chapter, or Group.

Title of Talk:

Speaker:
Full Name, Title, e.g., Dr., Prof.

Affiliation:
Company or School Address so that we may mail a copy of "The Newsletter" to him prior to the meeting.

Details about Speaker:
Short biography, experience that qualifies him to speak.

Date:
Day of the Week, Month, Day, Year, Time.

Place:
Give exact details where talk will be held. Is new map required, or is there one that has been used before?

Pre-meeting Dinner:
Time, Name, Location Eating Place.

Contact for Reservations:
Whom, By When, Where.

Talk will be of interest to:
Specific topics that will be covered in the presentation and who may then be interested in attending.

Our deadline: Approximately 5 weeks before 1st of the month of publication.

We don't want to wrench our arms out of place patting ourselves on the back, but John Redmon, recently attended a meeting of Section Chairmen, and found that "The Newsletter" is one of the few publications that is not running in the red. Up to now, we have been able to sort of hold our own, but as always we need help from advertisers.

North Jersey Section IEEE Executive Committee

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The IEEE Newsletter

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

THE NEWSLETTER
c/o Staff Associates
P.O. Box 275 — Morris Plains, N. J.
Telephone: FOxcroft 6-1580

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ABOUT ADDRESS CHANGES

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.

REPORT ALL ADDRESS CHANGES TO: INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, BOX A, LENOX HILL STATION, NEW YORK 21, N. Y.

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Executive Committee Meetings

at Verona Public Library

January 6, 1965
February 3
March 3
IEEE Convention March 22-25
April 7
May 5
June 2

SYMBOLS

by

Howard L. Cook, Secretary
IEEE Symbols Committee

The IEEE Symbols Committee and the IEEE Standards Committee have recently completed and approved a new IEEE Standard on Symbols for Units. They will be available in the near future. It is expected that this new standard will help to reduce the confusion that has existed in the past because of conflicts between standards generated by professional societies, national, and international organizations.

The following are some examples of symbols for commonly used units (unit symbols) extracted from the new standard:

Unit	Unit Symbol
ampere	A
angstrom	Å
cycle per second	c/s
decibel	dB
footcandle	fc
footlambert	fL
hertz	Hz
kilocycle per second	kc/s
kilohm	kΩ
kilowatt	kW
megacycle per second	Mc/s
megohm	MΩ
mho	mho
microampere	μA
microfarad	μF
micromho	μmho
microsecond	μs
milliampere	mA
millihenry	mH
millivolt	mV
milliwatt	mW
nanosecond	ns
ohm	Ω
picofarad	pF
volt	V
watt	W

Symbols for units are printed in Roman (upright) type. Their form is the same for both singular and plural. They are not followed by a period. Every effort should be made to follow the distinction between upper- and lower-case letters. Symbols for units derived from a proper name are written in upper-case letters (i.e., A, V, W, as compared to c/s, s).

The International Electrotechnical Commission and the U. S. Bureau of Standards have recommended the "hertz" (unit symbol, Hz) as the unit of frequency rather than the "cycle per second".

As a member of the IEEE, you are strongly urged to support this new standard. The tangible result of your effort will be that you will have symbols for units which will be readily understood by engineers and scientists throughout the entire world. The alternative is continued chaos in this area.

6th NATIONAL SYMPOSIUM ON HUMAN FACTORS IN ELECTRONICS

May 6, 7, and 8, 1965

BOSTON, MASS.

●

ANNOUNCEMENT AND CALL FOR PAPERS

The Human Factors in Electronics Group of the Institute of Electrical and Electronics Engineers will hold its annual symposium on May 6, 7, and 8, 1965, at the new Boston-Sheraton Hotel in Boston, Massachusetts.

The theme of the symposium is "Human Behavior in Relation to Computer Behavior." Any serious technical and scientific attack responsive to this theme will fit the program. Major emphasis in selection of papers will be upon empirical findings, although rational speculations will be considered. The following topic areas are offered as suggestions:

Man-computer interaction

Computer simulation of human performance

Human models for the design of computing devices

Human communication with computers

Computer communication with humans

Human compatibility of input-output devices

Man-computer systems

Psychological, sociological, and economic implications of computer technology

In addition, any paper reporting a new and innovative attack or speculation on any critical problem area of concern to the Group will be given consideration for inclusion in the program.

It is planned to have preprints of papers available at the symposium. In addition, selected papers will be published in the Transactions of the Group.

All papers must be submitted in final form, suitable for reproduction and publication, no later than February 1, 1965, to:

Dr. James Degan
MITRE Corporation
P.O. Box 208
Bedford, Massachusetts

Electron Devices

LASER DEMODULATORS

A talk on "Laser Demodulators" will be presented by Fred Sterzer at the next meeting of the Metropolitan Group on Electron Devices.

The meeting will be held Wednesday, January 13, 1965 at the General Telephone & Electronics Labs, Willets Point Boulevard, Bayside, L. I., New York, at 8:00 P.M. A pre-meeting dinner will be held at the Kam Fong Restaurant, Francis Lewis Boulevard, at 6:00 P.M.

The state of the art of vacuum and solid state laser demodulators will be reviewed by Dr. Sterzer. Topics to be discussed will include: Microwave photo tubes, photomultipliers, photoconductors, p-n junction photo detectors, photo-paramps, avalanche photo detectors, and optical heterodyning.

Fred Sterzer received the Ph.D. degree in Physics from New York University in 1955. He joined RCA in 1954, and is now Manager of RCA's Microwave Applied Research Laboratory in Princeton, New Jersey. His work has been in the field of microwave spectroscopy, microwave tubes and solid-state devices, and light modulators and demodulators.

Aerospace & Navigational Electronics

SPACE NAVIGATION

MEETING NOTICE

The January 1965 meeting of the New York Metropolitan Chapter of the Group on Aerospace and Navigational Electronics (GANE) will be held as follows:

Date:	Thursday, January 14, 1965
Time:	8:00 P.M.
Place:	Willkie Memorial Auditorium 20 West 40th Street New York City
Subject:	Space Navigation
Speaker:	Mr. Jacques Gansler Aerospace Systems Division G.P.L., Incorporated Wayne, New Jersey
Pre-meeting Dinner:	6:30 P.M. Old Seidelberg Restaurant 626 Third Avenue New York City

Speaker:

Mr. Gansler is program manager of the Aerospace Systems Division of G.P.L., Inc., Wayne, New Jersey, where in recent years he has been responsible for space navigation systems studies. These have included advanced ICBM guidance systems, standard space guidance systems, among others. Mr. Gansler is a graduate of Yale (BEE) and received his MS from Northeastern University. He has taught graduate courses in servo mechanisms.

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N. Y. Section, IEEE

Metropolitan Section

EDUCATIONAL PROGRAM – SPRING – 1965

Power and Industrial Div.

ASME

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This program is designed to prepare candidates for Professional Engineer License examinations in New York and New Jersey. The N. Y. State Board permits graduates of approved schools to take Parts I and II and qualify for "Engineer-in-Training".

COURSE NO. 15

STRUCTURAL PLANNING AND DESIGN (IEEE-ASME)

Review for Part I, N. Y. Exam., Part II, N. J. Exam. Planning, design, construction of buildings and similar structures in timber, steel and concrete, including beams, columns, foundations, piles, girders, riveted and welded sections. Intensive work in problem solving techniques with emphasis on the AISC and ICI codes. Printed notes available.

MONDAYS, *Starting Feb. 1, 1965*, 6:15-8:30 P.M., 18 Sessions
North Cafeteria, 19th fl., Con Edison Co., 4 Irving Place, N. Y. C.

Instructor: O. ONDRA, *Professor in Civil Engineering*
Manhattan College

COURSE NO. 16

BASIC ENGINEERING SCIENCES (ASME-IEEE)

Review for Part II, N. Y. Exam., Part I, N. J. Exam. Practical applications of hydraulics, thermo-dynamics, mechanics and electrical principles.

TUESDAYS, *Starting Feb. 2, 1965* 6:30-8:30 P.M., 19 Sessions
North Cafeteria, 19th fl., Con Edison Co., 4 Irving Place, N. Y. C.

Instructors: A. PAULLOW, *Senior Engineer*, Consolidated Edison Co., Inc.
and R. JACOBS, *Assoc. Professor*, Newark College of Engineering

COURSE NO. 17

MECHANICAL ENGINEERING (ASME)

Review for Mechanical Engineering Section of Part III, N. Y. Exam. Application of mechanical engineering principles to modern practice, shafts, flywheels, springs, gears and other machine elements, steel and heat treatment, internal combustion engines, air compressors, gas turbines, steam power plant cycles and equipment, refrigeration, heat transfer, air conditioning and other special subjects.

WEDNESDAYS, *Starting Feb. 3, 1965*, 6:30-8:30 P.M., 18 Sessions
Rm. 240, Ebasco Bldg., 2 Rector St., N. Y. C.

Instructor: E. STAMPER, *Assoc. Professor*
Newark College of Engineering

COURSE NO. 18

ELECTRICAL ENGINEERING AND APPLICATIONS (IEEE)

Review for Electrical Engineering Section of Part III, N. Y. Exam. Electrical Engineering Principles and Applications of: transformers, a-c and d-c machines, transmission lines, filters, networks, impedance matching, bridges, coupled circuits, resonance, harmonics, transients, three phase power, amplifiers, and *electronic circuits*. Features methods of problem solution based on examinations of past 7 years. Printed notes and past examinations available. *Only Review of Electrical Engineering for Part III available in Metropolitan area.*

WEDNESDAYS, *Starting Feb. 3, 1965*, 6:30-8:45 P.M., 18 Sessions
Rm. 1421, Con Edison Co., 4 Irving Place, N. Y. C.

Instructors: P. ZARAKAS, *Engineer*, Consolidated Edison Co., Inc.
and J. F. BATES, *Electrical Engineer*, Gibbs & Hill, Inc.

COURSE NO. 19

ENGINEERING ECONOMICS AND PRACTICE (IEEE-ASME)

Review for Engineering Economics Section of Part III, N. Y. Exam. Economic comparisons, fixed and operating costs, accounting and cost analysis, valuations, contracts, etc.

THURSDAYS, *Strating Feb. 4, 1965*, 6:30-8:30 P.M., 18 Sessions
Auditorium, 19th fl., Con Edison Co., 4 Irving Place, N. Y. C.

Instructor: S. DUBLIN, *Director of Research & Asst. Prof. in Management*
Newark College of Engineering

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NEW YORK SECTION IEEE
POWER & INDUSTRIAL DIV.

EDUCATIONAL PROGRAM

COURSE NO. 11

DESIGN AND CONSTRUCTION OF NUCLEAR REACTOR PLANTS

MONDAYS, 6:30 to 8:30 p.m. **Starting March 1, 1965**

Ebasco Auditorium, 2 Rector Street, New York 6, N. Y.

Course Coordinator: E. W. QUINN, *Long Island Lighting Co.*
175 E. Old Country Road, Hicksville, N. Y.
Tel. 516, WElls 1-6300, Ext. 411

This course will introduce various types of modern nuclear reactor power plants now in operation with emphasis on design and development of electrical, pnuematic and hydraulic controls of the reactor and its associated systems.

1. **Mar. 1. Introduction**
Various transient and steady state conditions in reactors that must be controlled for optimum performance and safe operation. Types of control rod drives. Types of auxiliary control systems for various types of reactors.
Speaker: J. M. HARRER, *Argonne National Laboratory*

2. **Mar. 8. Pressurized and Boiling Water Reactors**
Theory of operation. General design and construction.
Speaker: JOHN E. GRAY, *Nuclear Utility Services, Inc.*

3. **Mar. 15. Pressurized Water Reactor**
Control systems, design, operation.
Westinghouse Corp.

4. **Mar. 22. Boiling Water Reactor**
Control systems, design, operation.
Speaker: R. O. BRUGGE, *General Electric Co., San Jose, Calif.*

5. **Mar. 29. Liquid Metal Reactors**
Theory of operation, general design and construction of both "Fast" and "Thermal" types.
Speaker: D. J. SENGSTAKEN, *Parsons-Jurden Corp.*

6. **Apr. 5. Fast (Breeder) Liquid Metal Reactor**
Control systems, design, operation.
Speaker: C. C. SCOTT
Atomic Power Development Association, Inc.

7. **Apr. 12. Thermal Liquid Metal Reactor**
Control systems, design, operation.
Atomics International, Canoga Park, California

8. **Apr. 19. Gas Reactor**
Theory of operation, general design and construction and control systems and operation of the high temperature reactor.
Speaker: J. L. ALLEN, *Philadelphia Electric Co.*

9. **Apr. 26. Space (SNAP) and other Small and Mobile Reactors**
Theory of operation, design, construction, control.
Atomics International, Canoga Park, California

10. **May 3. Future Reactors and Their Control:**
Types, designs, sizes, safety construction, control, fuel conservation, efficiencies, research, problems.
Speaker: W. LIPINSKI, *Argonne National Laboratory*

COURSE NO. 12

NEW APPROACH FOR ELECTRIC HEATING SYSTEMS

TUESDAYS, 6:30 to 8:30 p.m. **Starting March 2, 1965**

Con Edison Co., Auditorium, 4 Irving Pl., N.Y. 3, N.Y.

Course Coordinator: I. M. BERGER, *N.Y.C. Transit Authority*
2072 Creston Ave., N.Y. 53, N.Y.
Tel. 852-5000 Ext. B 4247

This course will introduce new methods and developments for the application of existing and new equipment for electric heating systems. It will aid in the resolution of problems experienced in the design and calculation of electric heating systems, with emphasis to infrared space heating. Introduction by C. W. Meytrott, Vice President, Con Edison Co.

1. **Mar. 2. Keynote — Growth of an Industry**
Market Outlook
Speaker: P. GREINER, *Electric Heating Assoc.*

2. **Mar. 9. Building Design Considerations — Construction Materials and Insulation**
Private Residences & Apartment Buildings
Speaker: A. JOHNSON, *Nat. Mineral Wool Assoc.*

3. **Mar. 16. Wiring for Electric Space Heat**
Load and Diversity Considerations
Local Code Requirements
Speaker: F. GAFFNEY, *Con Edison Co.*

4. **Mar. 23. Heat Loss Considerations and Calculations**
Speaker: W. J. NOVAK, *Electrical Construction and Maintenance*

5. **Mar. 30. Economics and Feasibility of Electric Heating**
Initial Investment and Operating Costs
Speaker: P. O'NEILL, *General Electric Co., Louisville, Kentucky*

6. **Apr. 6. Electric Heating Equipment — Residential and Commercial**
Types of Equipment Available,
Selection of Equipment, & Controls
Speaker: DAVID JAE, *Jae & Meyer Co.*

7. **Apr. 13. Residential and Commercial Heat Pumps**
Speaker: W. L. EASTMAN, A. J. KRAUSE, *York Corp., York, Pa.*

8. **Apr. 20. Electric Heating of Commercial, Church and School Buildings**
Commercial—Infra-Red, Snow Melting, Spot Heating, Church and School Heating
Speaker: R. BOYD, *Edwin L. Weigand Co., Pittsburgh, Pa.*

9. **Apr. 27. What's New in Electric Heat (Research and Development)**
Heat of Light, Heat Storage, Ceiling Panels, Plastic Strip, Thermal Electric, Valance
Speaker: P. GREINER, *Electric Heating Assoc.*

10. **May 5. (Wed) Inspection Trip to Public Service Electric and Gas Company, Newark, New Jersey**
This will cover information on infra-red heating equipment and their applications. Demonstration to follow on the latest electric infra-red space heating installation in outdoor canopy.
Speaker: W. R. AIKENS, *Luminator Inc., Playno, Texas*

COURSES ARE OPEN TO THE PUBLIC

– Special Study Groups SPRING – 1965

COURSE NO. 13

SYSTEM STABILITY

WEDNESDAYS, 6:30 to 8:30 p.m. Starting March 3, 1965

Consolidated Edison Company, Room 1701
4 Irving Place, New York 3, New York
Course Coordinator: R. SULLIVAN, *Consolidated Edison*
Tel. 460-3769

This course covers fundamentals and application of system stability as related to the interconnection of synchronous machines. Previous acquaintance with symmetrical components is desired but not required.

1. **Mar. 3. Introduction to Synchronous Machines**
Review of direct and quadrative axis reactances and time constants and per unit system.
Speaker: L. J. HOLLANDER, *New York University*

2. **Mar. 10. Transmission of Power — Part I**
Equivalent T and P., phasor equations for power, circle diagram of transmission line.
Speaker: L. J. HOLLANDER, *New York University*

3. **Mar. 17. Transmission of Power — Part II**
Control of mw and mvar flow.
Speaker: L. J. HOLLANDER, *New York University*

4. **Mar. 24. Introduction to Steady State Stability**
Single machine system, transmission system operating connections.
Speaker: L. BRIEGER, *Consolidated Edison Company*

5. **Mar. 31. Criteria for Stability**
Phasor diagrams and equivalent circuit of generator and motor, determination of steady state limit curve.
Speaker: J. OLIVER, *American Electric Power Service Corp.*

6. **Apr. 7. Generator Capability Curves**
Synchronizing power, introduction to transient stability analysis.
Speaker: W. O. UHL, *Long Island Lighting Company*

7. **Apr. 14. The Swing Equation**
Inertia, electromagnetic and shaft torque, swing curves, stored energy of large steam turbogenerators.
Speaker: H. Y. TSIEN, *Public Service Electric & Gas*

8. **Apr. 21. Solution of the Swing Equation**
Step by step swing curve calculations.
Speaker: H. Y. TSIEN, *Public Service Electric & Gas*

9. **Apr. 28. Equal Area Criterion**
Critical angle, discontinuity in the accelerating power, reclosing breakers.
Speaker: L. BRIEGER, *Consolidated Edison Company*

10. **May 5. Multimachine Stability and Stability Digital Computer Programs**
Speaker: L. BRIEGER, *Consolidated Edison Company*

11. **May 12. Overall System Design**
System Design for stability with regards to transmission lines, generators, loads, shunt capacitors, frequency changes, system interconnections, etc.
Speaker: S. MALLARD, *Public Service Electric & Gas*

COURSE NO. 14

MODERN APPLICATION OF INSULATING MATERIALS

THURSDAYS, 6:30 to 8:30 p.m. Starting March 4, 1965

Con Edison Co., Room 1101S, 4 Irving Place, N.Y. 3, N.Y.
Course Coordinator: T. BALASKA, *Phelps Dodge Copper Products Corp.*
Tel: 963-8200 Ext. 403

This course is intended for electric utility, industrial plant, and consulting engineers who have the responsibility for either the design, construction maintenance, or operation of electric power systems. It will feature the design criteria and application of dielectric materials being employed in electric power system equipment.

1. **Mar. 4. Introduction to Dielectrics**
Theory, basic materials and their limitations, configuration effects, ionization, dielectric loss, effects of pressure and humidity.
Speaker: T. W. DAKIN, *Westinghouse, Pittsburgh, Pa.*

2. **Mar. 11. Generators & Motors**
Winding and armature insulation, enamels, laminates, and gaseous dielectrics.
Speaker: G. L. MOSES, *Westinghouse, Pittsburgh, Pa.*

3. **Mar. 18. Transformer, Bulk Power**
Generating station and substation transformers.
Bushings, windings, leads, ceramics, liquids, gases.
Speaker: R. GRIFFING, *General Electric, Pittsfield, Mass.*

4. **Mar. 25. Transformers, Distribution and Instrumentation**
Overhead, subway, buried, and padmount.
Ceramics, liquids, gases, epoxies, laminates.
Regulators and tap changers.
Speaker: F. LISTER, *Standard Trans. Co., Warren, Ohio*

5. **Apr. 1. Transmission & Distribution, Bare Wire Circuits**
Tower structures, pole lines, station buses, isolated phase bus.
Speaker: R. D. STYS, *Public Service Elec. & Gas Co.*

6. **Apr. 8. Transmission & Distribution, Cable Circuits**
Cable types and areas of application for generator leads, transmission, distribution, and utilization. Terminals and splices.
Speaker: C. T. HATCHER, *Con Edison Co., New York City*

7. **Apr. 15. Sectionalizing Equipment**
Circuit breakers, fuses, disconnects, switches, load breaks.
Speaker: A. E. STRINGFELLOW, *I T E, Philadelphia, Pa.*

8. **Apr. 22. Capacitor Materials and Construction**
Speaker: R. MACHARY, *Ohio Brass, Mansfield, Ohio*

9. **Apr. 29. Lightning Arrestors**
Arrestor components and principles of operation.
Speaker: J. A. HARTSHORNS, *Line Material Industries, Boston, Mass.*

10. **May 6. Testing of Equipment Insulation**
Governing specifications for testing and design. Test procedures, results, and interpretations. Applicable test equipment.
Speaker: O. X. HEINRICH, *J. G. Biddle Co., Plymouth Meeting, Pa.*

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N. Y. Section, IEEE

Power and Industrial Div.

EDUCATIONAL PROGRAM — SPRING — 1965

Metropolitan Section

ASME

INDIVIDUAL IMPROVEMENT STUDY GROUP

COURSE NO. 20

Speed Reading for Engineers

THURSDAYS, 6:30-8:30 p.m. **Starting Feb. 25, 1965**

Room 1806-S Con. Edison Co., 4 Irving Place, N. Y. C.

Instructor: W. M. SCHORKOPF
Instructor at Teachers College, Columbia University— Reading Consultant to the Board of Education of the City of New York.

This course is designed to help engineers to keep abreast of the literature in their fields, and of their general reading. It improves reading speed and retention through skills taught and practiced. It releases reading power held back by inefficient habits and attitudes. Engineers may expect improved speed in their reading, greater comprehension and retention of information, and an insight into the process of reading which will foster continuing individual growth.

1. **Feb. 25. Introduction to Speeded Reading**
   Objectives of the course; variables relative to rate, materials, and comprehension; Test for diagnosis of individual rate, comprehension, and vocabulary.
2. **Mar. 4. The First Step**
   Individual analysis; using the formula "SPD" as a key to the structural patterns of written materials.
3. **Mar. 11. Mechanics of Reading**
   Role of the eyes and eyespan; using verbal and printed clues to structure.
4. **Mar. 18. Paragraph patterns and Functions**
   Using paragraph functions and patterns to identify organization and structure in materials.
5. **Mar. 25. Adjusting Rate**
   Using paragraph functions as an aid to achieving optimal rate.
6. **Apr. 1. Article Patterns**
   Using the author's organization to get ideas more quickly.
7. **Apr. 8. Article Patterns**
   Using the author's organization to organize ideas into useful sequences and patterns for greater retention.
8. **Apr. 15. Summarizing**
   Reducing ideas to basic components for more rapid and greater retention.
9. **Apr. 22. Broadening Horizons**
   Reading to "keep up" and "get ahead". Evaluation and planning for continued improvement.
10. **Apr. 29. Evaluation and planning for continued improvement**

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IFAC BULLETIN AVAILABLE THROUGH ISA

Beginning with the 1963 series the information bulletin of the International Federation of Automatic Control (IFAC) will be available on a subscription basis through Headquarters of the Instrument Society of America. This international automatic control publication has previously been accessible in this country only to officers and committee chairmen of the American Automatic Control Council and its constituent societies.

Published three times yearly, the bulletin contains news of current events in the field of automatic control in all of the 26 countries making up the Federation, and in other countries as well. It provides an excellent opportunity to learn firsthand what is taking place at automatic control meetings throughout the world. In addition to notices of important meetings and symposia, lists of automatic control papers presented at these meetings, as well as recently published books on a world-wide basis are given. Occasionally, feature articles are included which present items of current interest, such as the IFAC technical committee reports or recommendations for action in the field of automatic control standards or terminology.

IFAC was established to promote the science of automatic control through: the presentation of congresses, the interchange and circulation of information on automatic control activities in cooperation with national and international organizations, and other means such as publications.

Its purpose is to strengthen the national organizations and technical societies associated with the field of automatic control by providing them with a method of working together on an international basis. It also provides a means for individual society members to learn of their counterparts' activities in other countries and to establish contact and exchange technical information more directly.

The United States participates in IFAC through the American Automatic Control Council (AACC), a federation of the five major engineering societies active in this field (American Society of Mechanical Engineers, American Institute of Chemical Engineers, Instrument Society of America, American Institute of Aeronautics and Astronautics, Institute of Electrical & Electronics Engineers).

To insure your subscription to this international publication, send your order today to IFAC Bulletin Department, ISA, Penn Sheraton Hotel, 530 William Penn Place, Pittsburgh 19, Pa. The rate is only $3 on an annual basis beginning in 1963.

WALKER CISLER TO SPEAK AT IEEE WINTER POWER MEETING

E. J. Merrill, general chairman, has announced that Walker L. Cisler, Chairman of the Board and Chief Executive Officer of the Detroit Edison Company and President of Edison Electric Institute, will be the principal speaker at the Second Winter Power Meeting of the IEEE at the Statler-Hilton Hotel in New York on Monday, February 1. More than 3,000 are expected to attend the six-day meeting which gets under way Sunday afternoon, January 31. A technical program of 54 sessions and 230 papers on developments in the field of power apparatus and systems is planned. To avoid conflict with technical sessions, all committee meetings will be held each day after 3 P.M.

Mr. Cisler is one of the most prominent figures in the public utility and engineering fields. He has won numerous honors and, besides his duties as chief at the Detroit utility, he is President of Atomic Development Associates, Inc., the Fund for Peaceful Atomic Development, Inc., the Power Reactor Development Company, and the Thomas Alva Edison Foundation, Inc. He is a director of a dozen corporations, foundations, and other organizations and societies.

Mr. Cisler will speak at the Awards Luncheon, during which the William M. Habirshaw Award will be presented to an engineer who has made an outstanding contribution to the field of transmission and distribution. The Award, established in 1958 by the Phelps Dodge Foundation, consists of $500 and a bronze medal.

Mr. S. Hartley Grim, chairman of the New York Section, will introduce guests at the head table, including Charles Dorsa, vice chairman of the meeting, and C. H. Linder, past president of the IEEE. The President of the IEEE will be introduced by L. C. Holmes, director of the IEEE, Region 1. C. A. Woodward, chairman of the Power Group, will give a short statement on the initial operations of the Group.

At the Award presentation ceremony, Mr. Merrill will introduce Dr. W. G. Shepherd, chairman of the Awards Board, who in turn will introduce the Award winner. The presentation will be made by Dr. B. M. Oliver, president of the IEEE.

The Ladies' program will include a bus trip to Staten Island via the new Verrazano Bridge, Tuesday, February 2. A Wednesday tour will include the Philharmonic Hall in Lincoln Center and the Gallery of Modern Art. Thursday, February 4, there will be a luncheon at the "Top of the Fair" restaurant, with an opportunity to view the World's Fair grounds. Mrs. Helen M. Weil is ladies' chairman.

A special luncheon meeting of the IEEE student branch chairmen and other selected students will be held on Tuesday, February 2, at 12:15 P.M. A prominent executive from the public utilities field will participate in leading a round-table discussion on opportunities for the young engineer in public utilities.

BIBLIOGRAPHY OFFERED ON AUTOMATIC CONTROL

A special rate has been set for members of AIAA, ASME, AIChE, IEEE, and ISA so that they can receive — at a 10% discount — a new quarterly publication containing world-wide bibliographic coverage of papers and books on all aspects of automatic control and related subjects.

This publication, the International Bibliography of Automatic Control, is offered at a low rate only to members of constituent societies of the American Automatic Control Council (AACC) which is the United States Representative to the International Federation of Automatic Control (IFAC).

A. Each issue of this new Journal will contain approximately 1,000 classified bibliographical entries for articles and books published throughout the world in automatic control and allied fields. These entries, which give the titles in both English and French with indication of the original language and the usual bibliographical references, are printed on one side of the page only, allowing for two methods of filing: either as received, or cut out and attached to cards, thus creating a permanent file. Each issue will also contain an author index and lists of periodical and non-periodical sources.

B. This new bibliographical tool is of the widest scope and covers such topics as measurement, analog/digital computation, biocybernetics, standards, terminology, symbols, patents, and education. It is expected that it will greatly assist scientists, engineers, educators, librarians, and manufacturers interested in the theory, components, and applications of modern automatic control.

The price of each volume (4 issues) is $22.50. This represents a savings of 10% over the established price. Orders are now being accepted for both the 1962 and 1963 volumes. It is expected that the four 1963 issues will be available in March, June, September, and December.

All orders with checks should be addressed to IFAC Bibliography Department, ISA, 530 William Penn Place, Pittsburgh 19, Pa.

THE RETURN OF THE SQUARE

Reprinted by permission, from "Scouting" Publication of National Council Boy Scouts of America

By CHARLES H. BROWER

President, Batten, Barton, Durstine & Osborn, Inc.

Back in Mark Twain's day, "square" was one of the finest words in our language. You gave a man a square deal if you were honest. And you gave him a square meal when he was hungry. When you got out of debt, you were square with the world. And that was when you could look your fellow man square in the eye.

Then a lot of strange characters got hold of this honest, wholesome world, bent it all out of shape, and gave it back to our children. Convicts gave it the first twist. To them a square was an inmate who would not conform to the convict code. From the prisons it was flashed across the country on the marijuana circuit of the bopsters and hipsters.

Now everyone knows what a square is. He's the man who never learned to get away with it. A Joe who volunteers when he doesn't have to. A guy who gets his kicks from trying to do something better than anyone else. A boob who gets so lost in his work that he has to be reminded to go home. A slob who still gets all choked up when he hears "America the Beautiful."

His tribe isn't thriving too well. He doesn't fit into the current group of angle players, corner cutters, sharpshooters, and goof-offs. He doesn't want to fly now and pay later. He's burdened down with old-fashioned ideas of honesty, loyalty, courage, and thrift. He may already be on his way to extinction.

Land of conformity

He and all the rest of us live in a country quite different from the one we were taught to love. Conformity is sweeping the country. While more and more people want to get seats in the grandstand, fewer and fewer want to sweat it out down on the field.

More and more youngsters looking for jobs are asking, "What can you do for me?" rather than, "What can I do for you?" They want to discuss the extras they're going to get rather than the extras they're going to give. When they go to work, they hide their light in the security of a committee where safety is in numbers. Progress may be slow and the glory small, but the work is steady. Eyes are on the clock rather than the calendar. Coffee breaks are more important than the big breaks.

What has happened is that we have changed from an exporting country to an importing country. I mean that we have been importing instead of exporting ideas.

The United States of America was once the greatest exporter of ideas the world has ever known. We created and sold abroad individual dignity, responsibility, and freedom — government of the people, by the people, and for the people — an idea that is still being bought today. We exported the idea of freedom of worship, the idea of an unfettered press, the idea that those who are taxed should be represented.

Day of the sneer

Once we were a laughing nation. We laughed easily and deeply. The corn may have been as high as an elephant's eye — but we laughed, and it was good for us.

Today we refer to our humor as sick, sick, sick, and it is, is, is. Always knocking, belittling, downgrading. A sneer rather than a grin. A mocking laugh rather than a belly laugh. Poking fun at other people rather than at ourselves.

Laughter is now stored in Hollywood in cans, just as the gold is stored at Fort Knox. Laughter is taken out as needed and pasted onto TV films. And the laugh track tips us off to when things are funny.

But I want to laugh when I am amused. I want to decide what I think is funny. This, I suppose, will mark me as a square. If it does, I will be in pretty good company, for this country was discovered, put together, fought for, and saved by squares. It is easy to prove that Nathan Hale, Patrick Henry, Paul Revere, George Washington, Benjamin Franklin, and almost anyone else you care to include among our national heroes was a square. Think what they might have said had they not been squares.

(to be continued)

N. Y. C & E Div.

PERT

PROGRAM EVALUATION AND REVIEW TECHNIQUE

A talk on Program Evaluation and Review Technique will be presented by Stuart M. Rothfeld of the Federal Electric Corporation at the coming meeting on the New York Section's C&E Meetings and Papers Committee program. These sessions are monthly affairs in a Fall/Winter series of lectures and all members in the area are invited to participate in these meetings.

The meeting will be held on Wednesday, January 13, 1965 at 7:00 P.M. at the United Engineering Center, 345 East 47th Street, Manhattan.

PERT

Since its inception by the Navy in 1958 for the Polaris Program, PERT has developed into a uniform mechanism used by DOD/NASA in relation to prime and subcontractor planning and control. More recently, many non-defense companies have found PERT to be an essential tool for eliminating guesswork from the planning and control of contracts and projects of every size and type.

In his presentation, Mr. Rothfeld will describe this system from the point of view of the project manager interested in the latest method for controlling his project, and the engineer, who must interface with the PERT system. He will discuss how the latest phase — PERT COST — incorporates cost control information into PERT to provide an integrated system for management planning and control.

The Speaker:

Stuart M. Rothfeld is currently responsible for PERT planning and operation at Federal Electric Corporation, an ITT subsidiary, Paramus, New Jersey. He serves as a consultant on PERT within the ITT System and is also director of the FEC PERT Workshop/Seminars, for outside management personnel. He holds a BA and a BS degree from Columbia University, and an MIE degree from New York University. He is the author of PERT COST — A Programmed Instruction Manual, published by Federal Electric Corporation, 1964.

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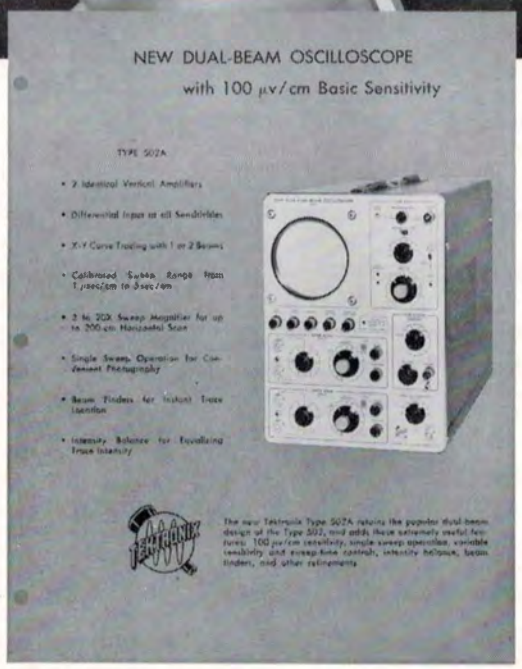

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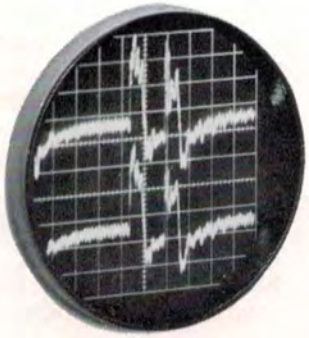

This oscilloscope display shows the output from a commercial transducer (upper trace) and the output from a developmental transducer (lower trace)—simultaneously.

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