

letin about eight times per year for the guidance of the chapter officers. New editions of *The Handbook for Chapter Officers* and the *Information Booklet* were authorized for early publication.

The next national convention of the Society was authorized for mid-October, 1962 or 1963 with a mid-western chapter as host.

Consideration was given to prospective charter grants for chapters at about ten strong colleges and universities during the 1960-61 year.

The meeting of the Council for the next year will be held on April 24, 1961, prior to the Washington meeting of the American Physical Society.

**Marsh W. White**

*Pennsylvania State University*

#### *Electrical Insulation*

THE annual Conference on Electrical Insulation of the National Academy of Sciences—National Research Council will take place October 17-19 at the National Bureau of Standards, Washington, D. C. In addition to technical sessions, there will be round-table discussions on dielectric breakdown in gases, liquids, and solids and fundamental aspects of new dielectric liquids (October 17) and on electrical discharges on insulation and fundamental aspects of new solid dielectric materials (October 18). Other program highlights include the presentation of the Whitehead Award and subsequently the J. B. Whitehead Memorial Lecture by Arthur R. von Hippel, whose subject is "In Search of Understanding". A banquet speech, "An Inside View of the Proximity Fuze Development", will be given by R. D. Huntoon. The chairman for local arrangements is the Conference secretary, Philip J. Franklin, Diamond Ordnance Fuze Laboratory, Washington, D. C., from whom further details can be obtained.

#### *Society of Rheology*

THEORETICAL and experimental papers dealing with such topics as normal stress effect, flow birefringence, rate of shear dependent viscosity, dynamic mechanical properties, creep, engineering applications of rheology, and theory of viscoelasticity will be presented at the 31st Annual Meeting of the Society of Rheology to be held from October 31 to November 2 in Pittsburgh, Pa. Registration and six technical sessions will take place at the Mellon Institute. The Society's Bingham Medal will be awarded at a smoker which will take place during the evening of November 1 at the Hotel Webster Hall.

The technical program will consist of discussions of the rheological properties of a wide variety of materials: mineral suspensions, blood, gelled oils, liquid crystals, and polymers (including their solutions and melts). There will also be a symposium on the mechanics of continua.

Further information on the meeting can be obtained from the chairman of the local arrangements committee, Hershel Markovitz, Mellon Institute, 4400 Fifth Avenue, Pittsburgh 13, Pa.

#### *4th Welch Foundation Conference*

MOLECULAR structure and organic reactions is the subject of the fourth in a series of conferences presented by the Robert A. Welch Foundation of Houston, Tex. The meeting is to be held November 7-9 at the Rice Hotel in Houston and will be presided over by W. O. Milligan, the Foundation's director of research.

About 600 scientists from the US and abroad are expected to take part in the conference, which will have as its principal speakers Arthur C. Cope (Massachusetts Institute of Technology), Vladimir Prelog (Laboratorium für Organische Chemie, Zürich), W. O. Baker (Bell Telephone Laboratories), R. Huisgen (University of Munich), R. B. Woodward (Harvard University), J. Monteath Robertson (University of Glasgow), Derek H. R. Barton (Imperial College, London), and Saul Winstein (University of California at Los Angeles). In addition twenty-four specialists will lead the scientific discussions following the formal addresses.

Since advance registration is desirable, persons interested in attending should contact Dr. W. O. Milligan, c/o P. O. Box 1892, Houston 1, Tex., as soon as possible.

#### *Electronics*

THE 12th Annual Mid-America Electronics Conference (MAECON) will be held November 14-16 at the Hotel Muehlebach in Kansas City, Mo. The meeting will begin with a round-table discussion on semiconductors and will continue with simultaneous sessions on semiconductors, microwaves, engineering education, and management. A banquet address will be given by William Shockley. Program and registration information can be obtained by writing to D. J. Patrick, 8930 Hardy Drive, Overland Park, Kan.

#### *Irreversibility and Statistical Mechanics*

GENERAL theory of irreversibility, random processes, liquids (theory and experiment), and irreversibility in gases and in plasmas are topics to be included in the program of a conference to be held by The Institute of Physics and The Physical Society of Great Britain. It will take place December 19-20 at Queen Mary College, London. Further information can be obtained from The Secretary, The Institute of Physics and The Physical Society, 47 Belgrave Square, London S. W. 1, England.

#### *Microwave Theory and Techniques*

ORIGINAL, contributed papers dealing with microwave research, development, and application are being sought by the Technical Program Committee of the 1961 National Symposium of the IRE Professional Group on Microwave Theory and Techniques (to be held May 15-17 at the Sheraton-Park Hotel, Washington, D. C.). Emphasis is expected to be placed on precision microwave measurements, particularly those involving plasmas, noise, parametric devices, etc.; solid-



## *The role of the independent physics research laboratory*

What part should the Physics Division of a not-for-profit independent research laboratory such as Armour Research Foundation play in the scientific community? We believe that it must fulfill a need not fully met by university, government or industrial research laboratories, namely, to provide a rapid and efficient translation of new discoveries in physics into useful applications. The independent laboratory is an ideal mechanism to accomplish such translation because its energies are entirely devoted to research and its activities are not restricted by the over-all goals of a specific production organization. The Physics Division of Armour Research Foundation is attempting to meet the challenge of this role by undertaking research programs encompassing a wide spectrum of physics, as shown in the partial list of current programs at the right. Its scientific staff must be alert to new research areas and to the especially fruitful "interfaces" between the classical branches of physics. They must be interested in developing new activities in their own areas of competence. Support for such new ideas may come from any of the diverse industrial organizations or government agencies, thereby allowing flexibility to pursue all significant research ideas. Competent physicists who are continually engaged in efforts of their own choice are best able to serve the research needs of the sponsors. Practical applications of the research results may be carried forward in the sponsor's own laboratories. In this fashion, an efficient transfer of research results is accomplished, based primarily on the inherent flexibility of an independent laboratory. A R F's physicists must have the scientific interest and self-motivation to be able to suggest and then complete such research programs but with this requirement comes a high degree of freedom of choice. The rewards, both in psychic and monetary income, are considerable. Competitive fringe benefits, including four-week vacations and tuition-free graduate study, also exist. There is room on the A R F staff for skilled physicists who feel they fit into this pattern.

### **ACOUSTICS**

- Shear Waves in solids
- Kilomegacycle ultrasonics
- Non-linear magnetostriction
- Sound velocity in liquid-gas mixture
- Sound propagation and weather

### **CHEMICAL PHYSICS**

- Radiation induced polymerization
- Structural effects in radiation chemistry
- Radiation produced free radicals
- Reactions in organic halogen compounds
- Ionization cross sections

### **NUCLEAR PHYSICS**

- k-shell ionization by mesons
- Neutron image intensifiers
- Beta-excited x-ray sources
- Gamma-ray backscattering
- Mossbauer absorption

### **OPTICS**

- Image structure and information theory
- Fiber optics research
- IR and UV backgrounds
- Studies in frustrated total reflection
- Ultraviolet photon counters

### **PLASMA PHYSICS**

- Stability of finite plasmas
- Shock wave induced reactions
- High resolution electron guns
- Gas discharge neutron source
- Modification of the ionosphere

### **SOLID STATE PHYSICS**

- Excess noise in semiconductors
- Organic semiconductors
- High temperature thermoelectricity
- Microwave absorption in solids
- Radiation effects on solid surfaces

### **REACTOR PHYSICS**

- Dust fueled reactor concept (ADFR)
- Radiation streaming
- Critical facility safety
- Radiation heating from nuclear devices
- Boiling water reactor redesign (EBWR)

ALL REPLIES CONFIDENTIAL:  
WRITE TO DR. L. REIFFEL,  
DIRECTOR OF PHYSICS RESEARCH, DEPT. 2-S



**Armour Research Foundation**  
of Illinois Institute of Technology

10 WEST 35TH STREET, CHICAGO 16, ILLINOIS



## Basic and Applied Research

*Immediate Openings*

### Ph.D and MS Degree Holders

*with experience in areas of*

Physical Optics  
Engineering Physics  
Thermoelectrics  
Solid State Physics  
E.M. Radiation Physics  
Spectroscopy  
Surface Physics  
Physical Chemistry

Please forward resume in confidence to

**E** Dr. A. M. Zarem, President  
Building A  
**O** Electro-Optical Systems, Inc.  
**S** 126 North Vinedo Ave.  
Pasadena, California

## SENIOR PHYSICIST

Magnetics department of our Research Division offers an unusual opportunity for a physicist or engineer (Ph.D. desirable) to participate in and lead experimental and theoretical studies in various aspects of magnetism and magnetic materials. Company sponsored projects are underway on thin films, fine particles, magneto-optics and allied areas. Job environment emphasizes individual achievement.

## AMPEX CORPORATION

World Leader in Magnetic Recording

Send resumes to:

Donald F. Eldridge  
Head, Magnetics Department  
934 Charter Street  
Redwood City, California

state microwave devices, including active devices such as amplifiers and frequency multipliers and passive devices such as switches and modulators; and sources and components at millimeter waves.

Summaries (500 words) of proposed papers should be submitted before December 12, 1960, to the chairman of the Technical Program Committee, Gustave Shapiro, Engineering Electronics Section, National Bureau of Standards, Washington 25, D. C. Additional information on the meeting as it becomes available can be obtained by writing to Dr. Shapiro or to the Institute of Radio Engineers, 1 East 79th Street, New York 21, N. Y.

### *Magnetism and Magnetic Materials*

FIFTEEN sessions covering spin arrangements, computer devices, nuclear hyperfine fields, metallic thin films, ferromagnetic resonance, high coercive materials, exchange interactions and nonlinear microwave processes, magnetization processes and fine particles, anisotropy, domain walls and domain wall motion, metals and alloys, microwave devices, oxides, and soft magnetic metals will be held during the Sixth Annual Conference on Magnetism and Magnetic Materials. The meeting will take place November 14-17, 1960, at the Hotel New Yorker in New York City. It will be co-sponsored by the American Institute of Electrical Engineers and the American Institute of Physics with the cooperation of the Institute of Radio Engineers, The Metallurgical Society of AIME, and the Office of Naval Research. The banquet address will be given by T. Keith Glennan, who will discuss problems involved in developing successful space systems.

Further details can be obtained from the local committee chairman, L. R. Bickford, Jr., IBM Research Center, Box 218, Yorktown Heights, N. Y.

### *Biophysics*

WITH the purpose of providing a forum for international communication in the field of biophysics, an International Congress of Biophysics will be held in Stockholm from July 31 to August 4, 1961. The meeting will include a series of symposia devoted to special topics in biophysics, as well as a number of contributed papers in pure and applied biophysics. The list of participants is expected to represent the national societies of biophysics, medical physics, and related fields, and to include other scientists who have an interest in both pure and applied biophysics. Further information can be obtained from Dr. Bo Lindström, Department of Medical Physics, Karolinska Institutet, Stockholm 60, Sweden.

Announcement of the congress has been made in the US by an ad hoc Committee on International Relations in Biophysics, which was established by the National Academy of Science—National Research Council more than a year ago at the suggestion of the Biophysical Society. The Committee is under the chairmanship of Robley C. Williams (University of California at Berkeley), and Arthur K. Solomon (Harvard Medical School).